

The Mining Journal

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Railway & Commercial Gazette

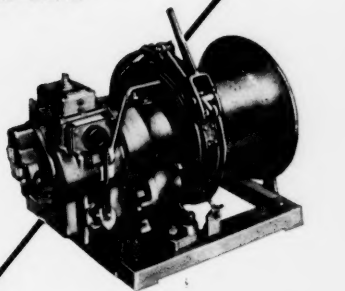
Vol. CCXXXIX No. 6122

LONDON, DECEMBER 19, 1962

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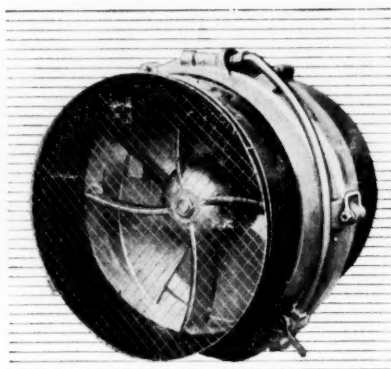
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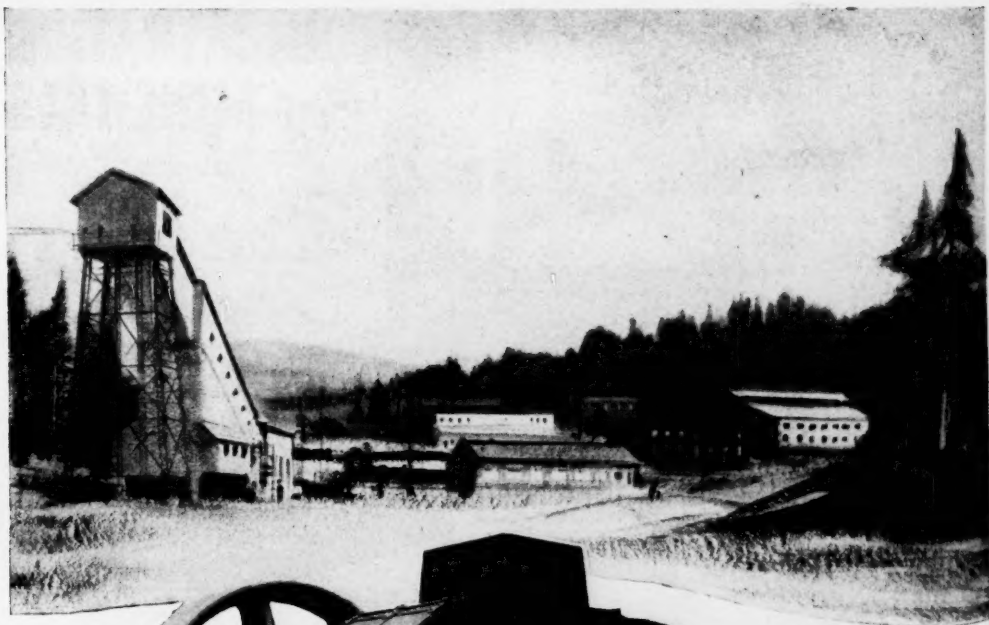


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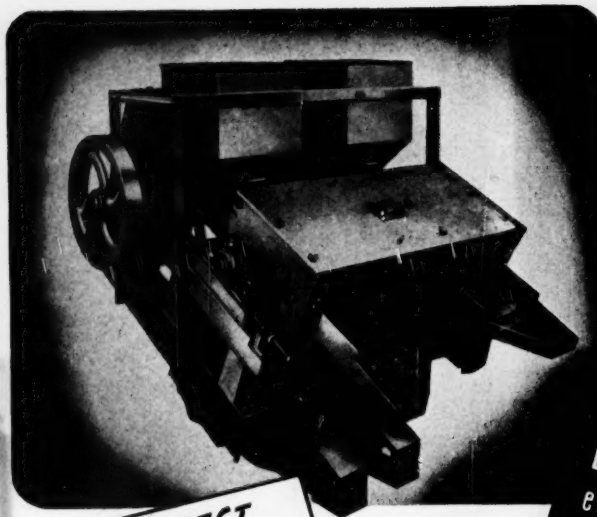
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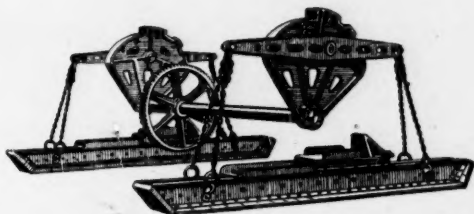


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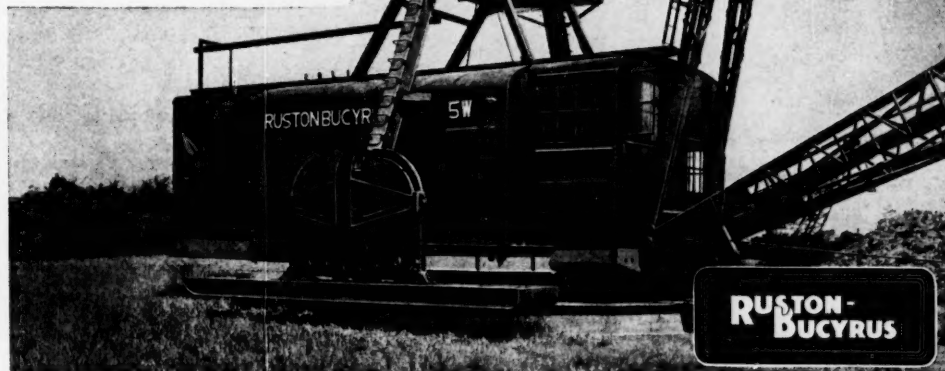
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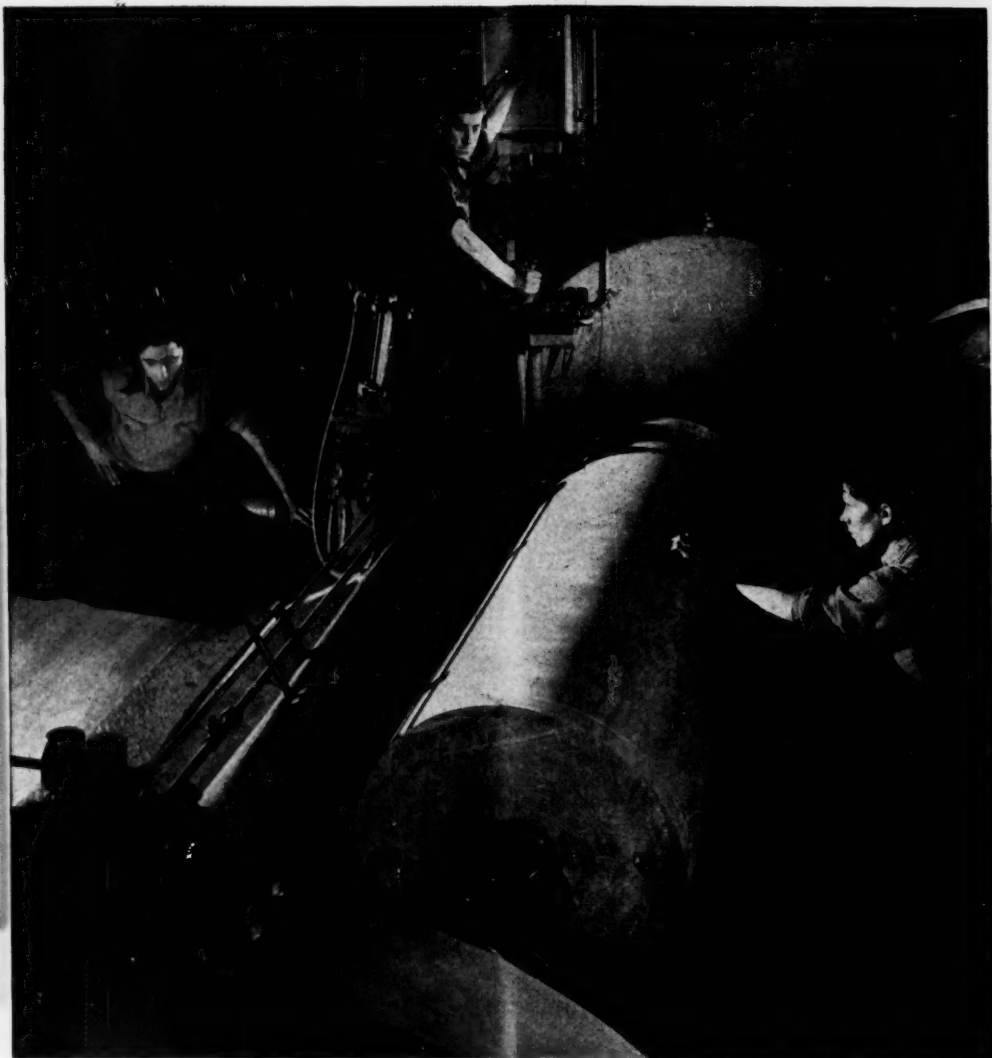


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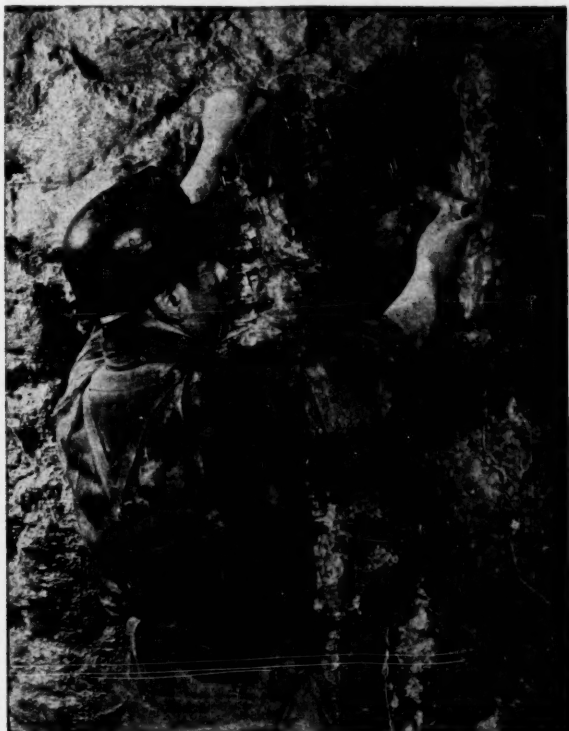
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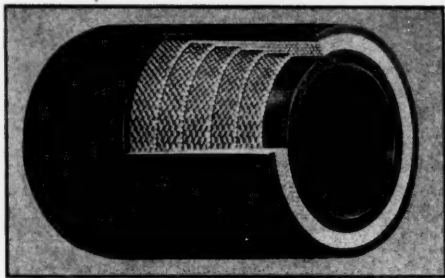
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The Mining Journal

Established 1835

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NOTES AND COMMENTS

Copperbelt Companies to Spend £2,000,000 on Native Welfare Scheme

A £2,000,000 scheme for the further improvement of housing and other amenities for native employees in the Northern Rhodesian copper mines was announced on Wednesday of this week.

The companies concerned are Mufulira Copper Mines, Nchanga Consolidated Copper Mines, Locarno Corporation and Roan Antelope Copper Mines. The scheme which is intended to encourage and assist the progress of native adjustment to semi-urban social conditions on the copperbelt, will be carried out over a five year period.

The decision to carry out this new programme follows a careful review the copper-mining companies have made of Native social life on the mines of the copperbelt which showed that considerable progress had been made by the Native employees of the mines in adjusting themselves to the semi-urban social conditions of their employment from the purely rural and tribal society from which they came. The new programme is intended to encourage and assist further progress in this process of adjustment.

The principal features of the comprehensive scheme are: improved fittings and fixtures in both married and single quarters; extension of individual sanitation arrangements; larger houses for the bigger families; additional parks, children's playgrounds and recreational facilities; extended health and welfare services for the workers' families; and improved educational and cultural facilities.

These and other improvements are to be embodied in all native townships on the mines in the copperbelt as soon as the necessary arrangements can be made and the necessary materials procured. It will take some considerable time to complete the programme in townships which have as many as 30,000 houses in all.

The provision of this accommodation has proceeded step by step with the expansion of the industry on the copperbelt and in conformity with the companies' policy of maintaining their standards of housing for employees at the highest levels prevailing in Africa. Expenditure on works of this nature has been regarded as normal expenditure, but, in addition, the companies recently agreed

to the installation of electric lighting in all Native houses at an estimated expenditure of £500,000 and work on these installations has already started.

This progressive scheme is not, of course, the first attempt on the part of the copperbelt companies to help the native employees to adjust themselves to the social

conditions of employment in the mines. Indeed, the constant expenditure of funds for this purpose has been a feature of the history of the copperbelt companies, a fact which is reflected in the companies' claim that they have never had to recruit a single African—a claim which gives strong support to the statement in the recently published story, "Copper Venture," describing the development of the Roan and Mufulira Mines, wherein it was declared that the Government, the Managements and the Missions have already done more between them to alleviate the serious social problems created by the inevitable weakening of the fabric of village life than has ever been attempted in any other industrial centre in the African Colonies.

Moreover, it should be understood that this progressive scheme is not connected in any way with the recent labour troubles on the copperbelt, but rather is it the culmination of a long period of careful study of the native social life on the mines. But what is good for the goose is also good for the gander and the introduction of this scheme to improve the welfare of the native employees should have an important stabilizing effect on the copperbelt's labour force.

The Mining Journal
wishes all its readers a Happy Christmas
and a Prosperous New Year

Columbite in Malaya

As previously noted in *The Mining Journal* the Paley Report stressed the exceptional scarcity of columbite among the critical metals for industry and re-armament and referred to a paper published by the U.S. Bureau of Mines. (I.C.7319) to the effect that slag from the Penang Smelter in Malaya has contained as high as 5 per cent to 8 per cent of tantalum and several per cent of columbite, and that an average of 3 per cent tantalum oxide (Ta_2O_5) was found in Malayan slag dumps. This report was issued in 1945 so the presence of minute quantities of these minerals is not a very recent discovery. In a recent issue of the Bureau of Mines' *Mineral Trade Notes*, it is stated that columbite is being won in Malaya as a by-product at two places, one at Bakri on the west coast of Johore, which was worked by the Japanese during the war, and a more important one at Semiling in the North of Kedah. The Johore deposit is not being worked at present owing to the Communist activities but in Kedah nine Chinese kongsis are mining tin-columbite concentrates and 72 per cent columbite tantalite concentrate is said to be recovered by a Chinese operator, Mr. Chung Chum Foh of Sungei Patani. Some producers sell their product to the Straits Trading Co. who are the primary procurement processing and distributing centre for the produce, though Mr. Chung is believed to market his product separately. Some 25 tons of crude concentrates are said to have been shipped to the smelters from Kedah in the first half of the current year going 15 per cent tin and 60 per cent columbite-tantalite oxide, with columbite predominating. The American 100 per cent bonus appears to be responsible for the increased measure of attention which these rare materials are receiving in Malaya. One difficulty which has affected the production of columbite-tantalite lies in the difficulty of assay as different assayers give differing results from the same sample. Experience, however, should overcome this trouble which is no doubt due primarily to unfamiliarity with the technique.

Israeli Metal Deposits

Israel Mining Industries, an Israeli Government Corporation, which has been actively investigating the country's mineral resources, has announced that copper ore reserves in excess of 40,000,000 tons has been indicated by test borings at a site covering some 750 acres in the Nahal Timna area of the Southern Negev.

The corporation, which is exploiting these deposits by opencast mining operations, expects to recover approximately 100,000 tons of ore during the next six months and beginning in July next, plans to extract a further 1,500,000 tons.

The chief engineer of the corporation in announcing the foregoing disclosed that the same company was exploiting phosphate and potash reserves and was also planning to extensively explore one deposit of manganese and two deposits of iron ore. Financing is being sought to enable the planned production of some 1,000,000 tons of phosphate ore and 300,000 tons of potash annually for export purposes and he predicted that within five years, Israel would be able to derive a gross income of \$24,000,000 from the export of these products.

The case of copper remains dominant, however, and it is reported from Tel Aviv that work on the first unit of the copper refinery to treat the ores mined near Elath will begin in March or April of next year. By the end of 1953, it is anticipated that the unit should be producing approximately 10 tons of refined copper per day. Until the production date, however, ore will be mined to build up a reserve. In the meantime, experiments are being carried out by the Belgian firm of Societe Belgo-Continentale des Minerais et Metaux for the purpose of "enriching" copper ores taken from the Negev area.

Pakistan

(From Our Ceylon Correspondent)

Colombo, December 3.

The mining industry in Pakistan continues to make steady progress. During the first half of this year the production of coal was 321,967 tons, compared with 265,961 tons in the corresponding period last year. Of this quantity, 200,620 tons were produced from Baluchistan, 103,669 tons from the Punjab, 9,034 tons from the North-West Frontier Province and 3,044 from Sind.

During the same period crude oil production was 676,930 bbl. compared with 572,460 bbl. for the corresponding period of 1951.

The production of chromite during the first half of this year was 9,368 tons of which the Pakistan Chrome Mines Ltd., a British firm incorporated in Pakistan, produced 7,165 tons and 2,203 tons were produced by the Pakistan Industries Ltd. and Mr. F. B. Patel.

The production of gypsum during this period was 13,753 tons as against 7,523 tons. The production of limestone during the period was 333,899 tons as against 173,199 tons. This mineral is consumed mostly by the cement factories in Pakistan. The production of fireclay during the first half of 1952 was 3,069 tons (980). The production of silica sand during the period was 2,478 tons. Production of celestine during the first half of 1952 was 218 tons (86).

IRON DEPOSITS IN PAKISTAN

A Pakistani industrialist, Mr. Abdul Karim Choudhri, claims to have located several deposits of high quality iron ore in over half a dozen districts of the Punjab, the North-West Frontier Province, Azad Kashmir and Baluchistan. Some of the seams, he said, varied from eight to ten ft. in thickness and were spread over many miles.

The deposits, if tapped, he said, could render the country independent of foreign supplies and would last for many centuries. The iron ores were neither hard nor soft and could be processed for meeting the requirements of the Railways and Defence Department.

Since 1944 Mr. Choudhri has been exploring areas in Pakistan for iron ore deposits. He said that samples of the iron ore deposits he had discovered when analysed in the United States, the United Kingdom and Germany, showed 56 per cent iron content and one of the latest samples yielded 62 per cent iron. The American Steel Mission in 1950 located some iron ore deposits in the Hazara district in Gilgit. The Government of Pakistan has placed the services of three foreign geologists to undertake a survey of the areas discovered by Mr. Choudhri. The survey is expected to be completed by the end of January next.

BALUCHISTAN CHROMIUM DEPOSITS

About 650,000 tons of chromite have so far been exploited and an equal quantity is still lying unexploited in Baluchistan, according to information given to the Minister of Industries by mineowners when he visited the chromium mines in the Hindubagh area, Baluchistan. The mineowners further told the Minister that the chromite ore is of high quality going about 50% chromic oxide. Another chromium mine in the same area, which was closed some 20 years ago, has been re-opened and is now one of the best in the area.

The Minister visited the chrome mines in the Hindubagh area, about 22 miles from Quetta where he inspected the mines of the Pakistan Chrome Company and the Pakistan

Industries Ltd. and discussed problems pertaining to the development of the mining industry.

A mission from Pakistan has left Karachi for Sydney to arrange for supplies of coal from Australia. It is stated that the Australian Government has indicated that about 1,000,000 tons of coal could be made available to Pakistan during the next twelve months.

South Africa

(From Our Own Correspondent)

Johannesburg, December 6

Company meeting time, unlike Christmas, comes twice a year in South Africa. At present the December one is in full flood and, as usual, producing a mixed batch of information concerning the mining industry as a whole and developments on individual properties.

The chairmen of the various groups continued to express their grave concern at the upward trend of mining costs. They have also pointed out that skilled European labour and Native workers are still scarce; that transport facilities are very strained; and that electric power supplies are below what South Africa needs for the full development.

At the West Wits meeting the chairman summed up cost position by drawing attention to the fact that the relief obtained by devaluation in 1949 had practically vanished as the result of inflation, although he qualified this statement—as did other leaders of the industry—by saying that there were welcome signs that determined efforts were being made to check inflationary trends.

The outlook for the industry is dominated by the question of the world gold price. Both Mr. Fleischer, of New Consolidated Gold Fields, and Mr. S. G. Menell, of Anglo-Transvaal, have expressed the view that this will be raised in the near future.

URANIUM PROJECT AGGRAVATES POWER SHORTAGE

The problem of the present power shortage is a problem unlikely to be solved satisfactorily for a fair number of years largely because of the new demands being placed upon the Electricity Supply Commission by the unforeseen growth of the uranium recovery project. This has caused the technical advisers of several of the new mines to plan the provision of milling capacities well ahead of requirements. At West Driefontein, for example, it is planned to raise milling capacity 125,000 tons a month, although this rate of increase will not be achieved for some years. With the completion of No. 2 shaft in the near future, however, the development programme will be extended and the rate of milling will show an annual increase.

At Doornfontein Gold Mine it has now been decided that the initial plant capacity will be 48,000 tons a month, which allowing for power cuts at peak periods, should allow a tonnage of 24,000 tons a month.

URANIUM REVENUE ESTIMATED AT £30,000,000 A YEAR

Further news has also been forthcoming on the uranium front. At the Johannesburg Consolidated Investment meeting, Mr. Kenneth Richardson drew attention to the fact that once the existing scheme gets into full production revenue from this source will be about £30,000,000. This was the figure given by Dr. Malan at the opening of the West Rand Consolidated plant and thus must be regarded as of considerable importance, particularly when it is added to the value of South Africa's gold production which for the year ended June 30 last was £143,000,000.

At the Blyvoor meeting, it was announced that a new agreement had been reached with the Atomic Energy Board, whereby operations to extract uranium are to be expanded. In addition to treating current residues, the mine is to treat accumulated slimes. The capital cost of the uranium plant will therefore be increased to nearly £3,400,000, which will be provided by loans. The erection of the plant is proceeding satisfactorily and it should be in operation early next year.

It would certainly appear that very large quantities of slimes will be involved in the recovery of uranium. At the Luipaards Vlei meeting, it was disclosed that approximately one-third of all tonnage treated will go through the uranium plant. The Stilfontein plant is being virtually doubled up in order to cope with the additional quantities of residues which will become available as a result of the company's decision to raise its milling capacity over the next year.

A further interesting development is the news that Virginia Gold Mine in the Free State, in addition to producing uranium on its own account and being expected in due course to treat slimes from Merriespruit, is to produce most of the sulphuric acid required by the other uranium plants on this field.

TWO MAJOR BASE METAL DEVELOPMENTS

Turning to the field of base minerals the past months have seen two developments which may prove to be of major significance. One is the finding of tantalite-columbite in the pegmatite tin-bearing bodies of the Uis Tin Mining Co. in South-West Africa.

The deposits are the largest so far discovered in Southern Africa and in recent months the pilot plant for the tin sections has been used for a number of test runs to recover the tantalite-columbite with successful results. The existence of lithium minerals and beryl has also been established in some of the pegmatites.

The other interesting development is the formation of the Titanium Corp. to exploit the ilmenite ore, which exists in large quantities some 25 miles south of Durban. As a result of a borehole survey, supervised by representatives of I. G. Farben, it is estimated that there are 2,000,000 tons of ore, containing 50 per cent titanium oxide, 200,000 tons of 66 to 67 per cent zircon and 100,000 tons of 94 to 97 per cent rutile.

ANGLO-TRANSSVAAL'S ROLE IN VOLTA RIVER SCHEME

Although not strictly a South African matter, the White Paper on the Volta River scheme in West Africa has a close tie-up with this country since Anglo-Transvaal Consolidated has pioneered the aluminium project there for the past 14 years. The whole scheme was conceived by Mr. Duncan Rose in 1938, who carried the exploratory work from the start, in association with another South African, the well-known irrigation engineer, Mr. C. St. John Bird, and the finance has been provided by Anglo-Transvaal.

South African mining enterprise is also coming into the picture in the Labrador exploration undertaking, as one of our greatest geologists, Dr. Bancroft, is to take part in the scheme. It is a fitting tribute to his work that the great new copper mine to be opened in Northern Rhodesia will be known as the Bancroft mine.

As the Markets will be closed over the Christmas holiday, our two regular market features—Metals, Minerals and Alloys, and Mining Markets—will not be appearing in our next issue. They will be resumed the following week.

Mining Development in Tanganyika

The territory of Tanganyika, now a United Nations Trusteeship exercised by Great Britain, possesses a large variety of minerals of which diamonds have, in the past, been the most important single product. However, after June 1950, export was suspended owing to a dispute between the chief producer, Williamson Diamonds Ltd., and the Diamond Corp. over prices and their five-year sales contract expired at the end of last year, as was the case also with the minor producer Alamasi Ltd. The result was that mineral exports and local sales dropped to a value of £1,948,408 as compared with £2,066,875 in 1950 and £2,673,265 in 1949. In his Annual Report the Commissioner for Mines, Mr. V. T. Hockin, states that but for the decline in diamond exports and local sales, the aggregate value would have exceeded £3,000,000 for the second year in succession. This apparent discrepancy is not explained in the Report. Like other Central African territories, current production was affected by the growth of big development schemes and constructional work, the benefit of which will no doubt be felt in later years.

Diamond exports were valued at only £88,953 as against £746,370 in 1950 and £1,652,613 in 1949; mining operations, however, were maintained last year though on a decreased scale. The Mwadui mine, the Williamson Diamond producer in Shinyanga district, yielded 99,887 ct. and the adjoining Alamasi mine 8,738 ct. Williamson Diamonds continued development both by diamond drilling and pitting and the geological and survey staff were increased. The heavy media separation plant was completed together with other surface installations. Two new 900 KVA generators were placed in position and a new African compound started. The Alamasi Co. installed a second semi-mobile pan plant and increased its power plant.

STATISTICS OF GOLD PRODUCTION

The gold output at 65,583 f.o.z. was very slightly above the figure of the previous year and somewhat below that of 1949. The principal producers were the Geita Gold Mining Co. which produced 24,038 f.o.z.; the New Saza Mines 15,488 f.o.z.; the Buhamba Mines 8,391 f.o.z.; and East African Concessions 8,329 f.o.z. Premium gold sold during the last quarter of the year amounted to 3,854 f.o.z., but it is pointed out that rising costs will soon absorb any advantage derived from premium sales as happened when the pound was devalued in 1949. For the industry to be re-established on a sound footing, a more realistic price is required for gold. The Geita Co. estimated its ore reserves at 2,114,427 tons averaging 3.7 dwt., both somewhat down on the year. Ore reserves at New Saza were estimated at 281,222 tons averaging 4.8 dwt. Tanganyika Central Gold Mines continued drilling at the Sekenke mine which has been shut down since 1942. Some gold and silver is being recovered from by-products of the Mpanda lead ore, but the quantities have still to be ascertained. Most of the territory's gold carries a substantial amount of silver, total output of which was 34,013 f.o.z.

INTEREST IN BASE METAL PROSPECTING

The principal feature of the year was the continued marked interest by influential mining houses in base metal prospecting. The most important direction in which this appeared was in connection with the Mpanda mine of Uruwira Minerals. Ore reserves at the middle of last year were estimated at 3,000,000 tonnes, going 3.8 per cent lead, 0.8 per cent copper, 118 grammes silver per ton, and 1.9 grammes gold. A pilot plant treated 36,522 tons of ore

and 2,965 tons of concentrates were exported; a recovery of over 90 per cent of the metal in the sulphides is claimed. It is hoped to increase the plant capacity from the present 300 tonnes of concentrates a month to 1,000 tons a day.

TIN AND WOLFRAM DEVELOPMENTS

During the year the wolfram price was quadrupled, but the output was only 39½ tons, slightly below that of the previous year. Nearly all the output comes from the western side of the Karagwe tinfield, where a number of parallel veins are being opened up. Despite high prices the production of tin dropped to 84½ tons of concentrates as compared with 133½ in the previous year. The concentrates averaged 71.89 per cent Sn. The Colonial Development Corp. bought out various small producers with a view of engaging in systematic prospecting, having been granted a special exclusive prospecting licence over a 44 sq. mile location. There is a tendency for the working of surface detrital deposits to give way to lode mining, but obviously the present output does not suggest the presence of economic lodes.

The International Nickel Co., through its subsidiary the Southern Mining and Development Co., began prospecting three special exclusive prospecting licences, extending over 1,042 sq. miles in the Dodoma/Kondoa districts and small areas elsewhere in the Itiso and the Nyabuyenza districts. In the first two, geological reconnaissance, pitting and trenching was undertaken, and in the Nyabuyenza region a detailed geo-physical survey. Another area north-east of Kungwe Mountain, where a basic intrusion occurs, is being diamond drilled.

Sulphur deposits in the Kibo crater on Mount Kilimanjaro were examined but as the crater rim is over 19,000 ft. above sea level, and the crater floor several hundred feet down, with only footpaths giving access, any economic exploitation of these deposits seems improbable.

Drilling for the Colonial Development Corp. in the Ruhuhu coalfields Songea district continued to be carried out by the Craielus East African Drilling Co. and down to a depth of 1,900 ft., more than 200,000,000 tons are reported to have been found, of which over 40,000,000 in one area should be extractable.

OTHER DEPOSITS

Despite the keen demand for asbestos, no important discovery was made during the year; most of the deposits of the territory are too small to promise economic working unless a number are found in close proximity. There was no production during the year. A small quantity of beryl was collected during 1949, but there has been no further production reported. There was an increase in the small annual production of mica to 74½ tons of sheet. A cutting and grading factory has been established at Morogoro.

More claims were pegged for magnesite in the Masai country, and 2,651 tons exported. Large tonnages have been reported on the eastern shores of Lake Natron, which, however, is almost inaccessible at present. The phosphatic limestones of the Southern Province and Morogoro districts await examination, but the present production is only some bat guano. Claims were pegged for gypsum, kyanite, vermiculite, and corundum, but no production was reported. A small trial shipment of graphite was made to New York and 557 tons of kaolin was produced.

Engaged in mining were 17,923 natives and 426 Europeans. African wage rates varied between 27s. and 73s. a month.

Belt Disposal of Tailings

The transportation of ore by belt conveyor at Jagersfontein, one of the mines in the De Beers Consolidated Diamond Mines group was briefly referred to in our issue of June 20, 1952. This system has proved to be so much more economical than the endless rope haulage method that the central washing plant at Kimberley is now being converted to a similar belt disposal system. The following article, describing the proposed installation at Kimberley, has been reproduced from the December issue of *Optima* a quarterly review published by the Anglo American Corporation of South Africa.

The system will use a belt, 42 in. wide, discharging into a distribution bin at the top of a plateau about 125 ft. high. The bin will feed two lateral belts, each capable of carrying the full tonnage for disposal. The lateral belts will discharge into surge bins, each feeding two 36 in. belts equipped with flingers, which will throw the tailings ahead of the equipment.

In all, four flingers will be installed, any two being capable of handling 1,000 tons per hour, the output of the central washing plant.

On the Jagersfontein Mine, the crushing and washing plants are in operation for eight hours a day at the rate of 600 tons an hour. After crushing and washing operations are completed, the blue ground tailings are discharged in a continuous stream, as there is no storage point between the washing plant and the tailings dump. The layout on the tailings dump must, therefore, handle 500 tons an hour, the remaining 100 tons being pumped away as puddle.

In order to discharge this quantity of tailings, it is essential that the layout be flexible. When using the endless rope system, it is necessary to have at least four large tipping faces and between 300 and 500 one-ton side-tipping trucks in circulation.

When using the conveyor system, it is necessary to have only two main discharge points. Only one discharge point is used at a time, the second point being used as a standby and as an alternative when the other is being extended.

The tailings are elevated to a height of about 100 ft. above ground level by means of two 30 in. conveyor belts in series. The conveyor tables are of light steel section, 20 ft. in length, and are jointed by means of fishplates and pins. The tables are interchangeable, and the inclination of the conveyor belt may be varied.

POSSIBLE SINGLE BELT OPERATION

The second conveyor in the series discharges into a small surge bin on the top of the tailings bank; the tailings are drawn off from this bin by one of two conveyors running to opposite faces of the dump. These conveyors have belts 30 in. wide and 200 ft. long, and are each capable of handling the full tonnage. This arrangement permits of tailings being handled by one belt while the other is being repaired or extended. Each belt discharges to a small surge bin, from which a final belt carries the tailings to the dumping face.

The delivery end of each final conveyor is a mobile unit incorporating the conveyor drive gear, to which is attached a swivel thrower, or flinger, which throws the tailings 40 ft. beyond the face.

Each final stage conveyor has to be moved forward 40 ft. per month. To extend the conveyor, the tail pulley

is first moved forward 40 ft. The tracks are then extended ahead of the head pulley assembly, and the assembly is disconnected from the stationary portion of the conveyor and moved forward 40 ft. Two standard 20 ft. sections of conveyor table are placed in position between the end of the stationary section and the mobile head pulley assembly.

EXTENDING THE CONVEYOR

When the conveyor has to be extended for the second time, the same procedure is carried out. When the conveyor has to be moved for the third time, the conveyor belt is cut; the tail pulley is moved back to the first position; and the belt installation is lengthened by 120 ft.

The tail pulley is mounted on a travelling carriage positioned by means of a rope which is operated by a switch.

The swivel thrower consists of a short, high-speed conveyor belt, travelling at 2,400 ft. per min. and shaped by two circular rotating side discs into a flat U-shape. The tailings are fed vertically on to the down-going side of the belt. The thrower can be rotated through 180° and is able to build a dump 80 ft. wide.

Labour and costs for the operation of the two systems are as follows:

	Endless rope haulage	Conveyor system
European labour	7	1
Native labour	88	12
Cost per ton washed	3.7 pence	1.4 pence
Capital cost	£20,000	£33,700

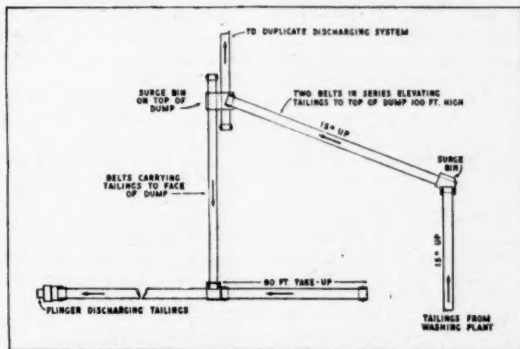
The conveyor belts for the throwers cost £31 each; they have a life of from 160 to 250 hours.

At the present rate of washing, the reduction in cost per ton from 3.7 to 1.4 pence represents a saving of £14,350 per annum.

At Kimberley, the present endless rope haulage layout operates with 900 one-ton trucks in a closed circuit of at least five miles, and has a labour complement of 20 Europeans and 270 Natives. The new belt conveyor system will be operated by 7 Europeans and 50 Natives, a reduction of 13 Europeans and 220 Natives. A considerable reduction in operating costs is expected.

Several 18 in. tailings belt conveyors, handling up to 30 tons an hour, have been installed at the pulsator, the Kimberley floors and other subsidiary plants. These conveyors are mobile, operate at low cost, and are very economical in labour. Previously, tailings disposal at the pulsator required one European and 12 Natives to operate an endless rope haulage. Only four Natives are needed to operate the belt conveyor installation.

In view of the present acute shortage of labour, the saving in both European and Native labour is considered to be of even greater importance than the saving in cost, particularly on mines where Company housing is provided.



The proposed belt conveyor installation at Kimberley

An Englishman Looks at the American Mining Industry

By K. A. FERN

"Reflections on a North American Journey" was the title of a paper read by the author before a meeting of the Cornish Institute of Engineers in Camborne on December 12 last. The author, who is the chief metallurgist of Cyanamid Products Ltd., was in a strong position to discuss current American ore dressing practice as he had just returned from an extended visit to the United States and Canada, but in view of the amount of publicity devoted to this topic in recent months by the mining Press and also because this subject has been adequately described in this country by Mr. M. G. Fleming in his paper, "The trend of Mineral Dressing in North America," read before the Institution of Mining and Metallurgy in April last and by Mr. F. B. Michell in his paper, "The Preparation and Dressing of Non-ferrous Ores in the U.S.A.," read before the Cornish Institute of Engineers in February last (see *The Mining Journal*, April 4, 12 and 19), Mr. Fern devoted most of his paper to an analysis of his reactions to the attitude, habits and outlook of North American mining men to their work. The article which follows is a reproduction of the author's paper and may be regarded as a challenge to mining executives in some other parts of the world to broaden their mental horizons and modify their existing inter-departmental relationships.

No one visiting the North American continent can fail to be struck with the tremendous vitality of industry. This is true of mining as well as of other industries, and one feels that in mining that vitality and energy is expended more profitably than it is in what might be termed the lighter industries. I had spent the four years before my visit in travelling to mines and talking to miners in Africa and most countries in Europe and it was with this background that I studied the American mining scene.

The first thing which struck me was the readiness with which mine managers, mill superintendents and research workers threw open their plants to the visitor, especially when he was a fellow technician. This is not a criticism of mine managers and officials in this country, but in many European and African territories the visitor is actively discouraged. This attitude I feel can be of no benefit to the mining community as a whole. I have referred to the published details of plants some of which I visited, but a tour through the mill and a half-an-hour chat with the metallurgist or mill superintendent was of more value than a score of re-readings of an article in the mining Press. This preparedness to receive and welcome visitors extended, I found, not only to people like myself, but to visitors of every grade from neighbouring mines. This was especially noticeable in Canada.

REGULAR INFORMAL MEETINGS

The new Barvue mine was just starting up at the time of my visit to Canada and on the afternoon I was there, the managers of two neighbouring mines, and the mill superintendent of a third, were all being shown round the plant. This, incidentally, was after a power failure the previous night, which had kept most of the mill staff out of bed until 4 a.m. that morning.

In Canada, too, I found that in most areas where there were half a dozen mines within easy reach of each other, informal meetings of mine and mill superintendents were held at regular intervals; each mine in turn offering accommodation and hospitality. This latter is I believe one of the best features of the scheme. The Cornish Institute and the local sections of the I.M.M. which have recently been formed in the Rhodesias, are performing a most useful function in bringing together the staffs of operations in a single area to discuss common problems, but I believe more is gained from discussion by people in comfortable chairs sitting in a group, than by the same people sitting in rows at a formal gathering, with all the procedure this involves. I would mention too, the meetings of local sections of the A.I.M.E.—I had the opportunity of going to a dinner meeting of the "Hard Coal" section in Pennsylvania, where some papers on "Electricity in Mines" were read. I do not feel that either the papers or the subsequent discussion were worse or less useful, because they followed rather than preceded, a good dinner. These things

are, I think, worth stressing, for we are all in some measure teachers and instructors, and are always looking for the best way to present the things we want to teach.

A COMMUNITY OF EFFORT

Relations between mines naturally leads one to think of relations between people in the same mine—that problem of "human relationships" which mine managers are so often urged to study—generally by well-meaning people who themselves are not always sure how they would define the expression.

It seemed to me that there existed between management (at every level) and workpeople a much greater sense of community of effort, than I have found in most parts of Europe and Africa—certainly much more than is found in most industries in Great Britain to-day. Examples of this were numerous, and perhaps two of them will suffice. At the Mascot operation in Tennessee I was asked to lunch in the staff mess. It was a Thursday and I found all the departmental heads gathered together, waiting for the manager. On his arrival, grace was said and lunch began. At its end, chairs were pushed back and the lunch party turned itself into a discussion group, to resolve inter-departmental difficulties.

At the other end of the scale, I was at an anthracite colliery in Pennsylvania soon after the end of the soft coal miners strike, at the time when Mr. J. L. Lewis was discussing a strike of the anthracite men. It might have been expected that relations between management and workpeople would be a little strained. The situation was exactly the opposite—I was helping one of my colleagues in the starting up of a new type of H.M.S. plant and never have found a more cordial atmosphere—everyone concerned pulled together when things went wrong—as they so often do on such occasions.

The output per manshift even in milling operations also particularly took my attention. Here again perhaps my attitude was biased, from my contact with the doctrine of "cheap native labour." I was astonished to find at the Copperhill plant of Tennessee Copper that a foreman and two operators ran the plant on each shift. I shall refer to the mechanics of this operation later, but it is I think significant that there were more graduate technicians in the mill laboratory than there were operators on shift. I realize that wage rates in America make it essential to reduce to a minimum the number of bodies employed on shift work, but I doubt whether the total wage bill was higher than that in a South African gold reduction plant. Certainly, allowing for the difference in money values, it was no more per ton milled than in the mill of a West African gold mine where I worked before the war.

One more reflection. The American is an inveterate tourist and his passion for visiting is turned to profitable account in many places.

The mining industry, although not making a profit from tourists does encourage them to visit open cast operations such as Bingham Canyon and the big open pit at Hibbing Minnesota. I brought home a copper mug stamped "made from Utah Copper" but I have yet to see in my own kitchen a saucerpan labelled "Made from Rhodesian Copper and lined with Cornish Tin." There were, of course, a number of properties which for reasons of security were only open to accredited visitors, but there was no doubt that in general, the mining industry welcome the widest publicity and public interest. Perhaps a wider public interest in English mining would help us pressing our claim for modifications in our system of mining taxation.

These have been but random reflections, on the background to American practice. There were naturally a number of details of practice, not necessarily new, which interested me. Above all, there was the readiness to try anything new, and to discard it without concern if found unsuccessful. This attitude of mind is reflected, too, in the short life of plants—I remember one young engineer saying to me that a plant installed in 1942 was, of course, quite out-of-date.

In dealing with new processes and techniques perhaps I may be forgiven if I refer first to some work undertaken by my own company and its associates. Many of you will have read earlier this year, an account of the Chemico metals technique, developed by the Chemical Construction Corporation, Sherritt Gordon Mines Ltd. I saw both the pilot plant and the first commercial plant (at Garfield, Utah) using this technique. It is, of course, a chemical engineering process, involving reactions at high temperatures and pressures, a field somewhat foreign to the mineral dressing engineer. We believe though that in the near future we may have the answer to the treatment of a number of what are refractory ores.

We take a certain amount of pride, too, in the cyclone plants now concentrating iron ores on the Mosabi Range. These cyclones have a remarkably high throughput and their use is being extended.

DEVELOPMENT OF TECHNIQUES

The subject of grading is in American, as in most mining areas, always fruitful of discussion. My impression was that rod mills have now found a permanent place in most large plants, and are regarded as a tertiary crushing stage, a number of ingenious devices have been developed for rapid loading of rod charges into mills, and I was shown one device consisting of a hopper, a set of rollers and a ram, by which it was claimed that a complete rod charge could be fed in ten minutes.

In Canada, I visited Lake Shore, which has for many years been a focus of research into grinding. As you probably know, the Lake Shore engineers, led by Mr. B. S. Crocker, have developed a new technique in pebble milling, in which pebble size is controlled, so as to be equated to the weight of a corresponding steel ball. I saw the results of a most interesting experiment in which uniform charges of ore were ground with equivalent weights of tungsten carbide and also steel balls, pebbles. The grinding was in two stages—first with a coarse ball charge, followed by a fine ball charge. The test was repeated using the fine balls first. The six ground samples thus obtained were sized and it was found that the size analyses of the samples were almost identical.

Another interesting development was the use of Tricome mills with a fluid drive at the new Barvue mine near Val D'Or, in Quebec. The mills (8 ft. x 12 ft.) were rated to use 600 h.p. with a gear coupled drive, but with the fluid drive were only using about 400 h.p. in grinding at the rate of 1,000-1,100 tons per day. The operators said

that in starting, more power was used in overcoming the inertia of the motor than in getting the mill up to speed.

In his paper, Dr. Fleming referred to the use of instruments for control. I think the best example I saw was the Copperhill mill of Tennessee Copper Co. Apart from the normal recording of pulp densities and pH there was a continuous measurement of conductivity in the flotation cells. At Copperhill there are soluble salts in the mill feed. These affect the behaviour of the flotation circuit and the variations in conductivity due to the varying concentration of salts is used to regulate the rate of feed of flotation reagents.

USE OF MILL BY-PRODUCTS

The final point to which I would like to refer is the utilization of by-products in milling operations. Rising costs are in many cases being countered by the production and sale of what were previously waste materials. Here again, the Tennessee Copper operation comes to mind. The ore contains about 4 per cent of magnetite, which was previously lost in the tailings. It is now recovered on two Crockett type magnetic separators, reground to 10 microns and reconcentrated magnetically to give a product containing more than 99.5 per cent Fe_3O_4 . This product is reduced in a stream of hydrogen and the powdered iron sold for 15c. per lb. It is interesting that the total weight of products shipped from the Copperhill operation is greater than the tonnage of ore hoisted from the mine.

I came across other similar cases of by-product utilization and I feel that this is a field that might profitably be investigated by mine managers everywhere.

Further Reports from Uganda

In our issue of December 5 the official report of the Commissioner for Mines for last year was reviewed and now, by the courtesy of the Director of Information for the Uganda Government, we have received statistics and a brief report covering the first half of the current year.

The gold production continued steady in the current first six months. No increase, it is said, can be expected in production unless new goldfields are discovered. In Ankole old ground is being turned over and over again as some low grade areas can be worked at the present price of gold which were uneconomic when the price was only around £8 per f.oz. Production for the half year was 115 oz. compared with 273 oz. for the whole of last year.

Wolfram production has declined, but here, as in other minerals, the decline has been due to labour being put to road building and work preparatory to the installation of mining machinery and pilot concentrating plants. The total output for the half year was 54½ tons of concentrates against 160½ tons in 1951.

Tin output has dropped a little and is given at 59½ tons for the half year, compared with 162 tons for the whole of 1951. The number of Africans at work fell off in the second quarter to 1,548 as compared with 1,665 in the first quarter. Some interest is being shown in the possibility of mechanizing some of the old tin properties to treat large tonnages of comparatively low grade ore.

The Sierra Leone Development Co. appears to be making progress as the production of galena in the second quarter was 58 tons compared with 10 tons in the first quarter and just over 5 tons in 1951. There was also a minute production of 0.23 ton of columbite and 1.20 tons of bismuth.

Principal interest is centred on the future of the Kilemba mines in the foothills of the Ruwenzori Mountains where operations are now concentrated on preparing the mine for production. But this cannot start before 1954/55 as power must be derived from the Owen Falls Station 240 miles away.

Correspondence

To the Editor, *The Mining Journal*,

Sir,—In the article in your issue of September 26, on Developing Uganda's Resources, I feel that the potentialities of the country are not sufficiently stressed. The development of Uganda's minerals has, in fact, been so recent that information obtained one year is out of date the next.

I do not agree with the statement that "this is a country of diverse but small deposits." The Kilembe copper-cobalt mine, for instance, is now preparing to instal plant to treat 2,200 tons of ore a day. This being so the ore reserve figure of 1,650,000 tons quoted by you is obviously very far from the truth. I understand that at the above output Kilembe will be one of the biggest cobalt producers in the world.

Further, there are many wolfram occurrences in the Territory, several of which are of large size though low grade. On some of these mines plants to treat several hundred tons a day are being installed, and, if the price of wolfram is maintained these will only be precursors to still larger plants.

Office of the Mining Consultant,
c/o. Mines Dept.,
Dar Es Salaam, Tanganyika.

JACK SPALDING
November 20, 1952.

To the Editor, *The Mining Journal*

Sir,—Thank you for your letter of December 9 enclosing a copy of Mr. Jack Spalding's letter to which I submit the following reply:

The general policy followed in each of the sixteen articles published in *The Mining Journal* on the Colonial Mineral Survey series has been to show in perspective the contribution of the Geological Survey to minerals development in the particular country under notice, at the same time presenting a broad picture of the general situation. The article on Uganda followed this general pattern and for that reason the Kilembe mine was not singled out for special reference.

The figure I gave of 1,660,000 tons of ore referred not to the Kilembe mine but to much smaller deposits on the flanks of Ruwenzori. Kilembe's ore reserves are estimated at 15,000,000 tons.

The suggestion that Uganda seems to be a country of "diverse but small deposits" was made by Mr. K. A. Davies and Mr. G. B. Bisset as Director and Deputy Director respectively of the Uganda Geological Survey. Apart from the Kilembe mine and the wolfram deposits referred to by Mr. Spalding, this statement still seems broadly accurate.

I am grateful for this opportunity of making it clear that, far from decrying the mineral potentialities of Uganda, my aim was to present an encouraging picture of a variety of occurrences being vigorously explored.

South Lodge,
Sefton Park, Stoke Poges, Bucks. A. G. THOMSON,
December 13, 1952.

To the Editor, *The Mining Journal*.

Sir,—Mr. Spalding has asked me to add an up-to-date paragraph on the subject of the Sukulu (Tororo) mineral deposit, a short account is attached.

Very large deposits of carbonatite rock occur as pipes standing many hundreds of feet above the general ground level. Much of the carbonatite has been found to be suitable for cement making and a factory has been installed which will produce 200 tons of cement a day. Suitable clays for mixing with the limerock occur close by.

In the soils surrounding the carbonatite pipes, occur very large tonnages of soil and sub-soil containing pyrochlore, magnetite, apatite, francolite, baddeleyite, zircon and some cassiterite.

A special exclusive prospecting licence is being granted to the Sukulu Exploration Syndicate to constitute and register an exploration company known as the Tororo Exploration Co., Ltd. The mining companies undertaking this are Rio Tinto, Monsanto, Frobisher and the Uganda Development Corporation.

In addition to the exploitation of the more valuable minerals listed, it has been decided that iron and steel will be produced using the magnetite as ore.

Survey, Lands and Mines Dept.

Dept., P.O. Box 1, Office of the Assistant Commissioner of
Entebbe, Uganda. Mines. December 2, 1952.

[*The Sukulu (Tororo) mineral deposit referred to above was described by Mr. A. G. Thomson in his article, developing Uganda's resources.—Ed., M.J.*]

REVIEWS

Annual Report of the Board of Regents of The Smithsonian Institution, 1950.—United States Government Printing Office. Pp. 522 with index and illustrations. Price \$3.00 cloth.

In this annual publication, the secretary's report covers 155 pages, and the report of the executive committee six pages. The general appendix presents brief accounts of scientific discoveries and investigations on such varied topics as the surface and atmosphere of the sun, the elementary particle, permafrost, and the origin and antiquity of the Eskimo.

Well illustrated, this is a pleasing volume.

Mines Register, 1952.—Atlas Publishing Co. Pp. 771, including Equipment and Supply Index. Price \$25.00.

The *Mines Register* is the successor to *The Mines Handbook* and *The Copper Handbook*, and this twenty-fourth edition presents the latest information obtainable on mining companies that are located in the Western Hemisphere and that produce precious, semi-precious, and base metals. A selected list of the more important mining companies operating in other parts of the world is included, and the overall data given presents details of inactive companies, metal industry statistics, and security prices. A valuable register.

Geological Survey of Western Australia Bulletin 103, Part I, Geology of Portion of the Mt. Margaret Goldfield.—By R. A. Hobson, B.Sc. (Hons.) and K. R. Miles, D.Sc., F.G.S., and Part II, Garnetized Gabbros from the Eulamina District, Mt. Margaret Goldfield.—By K. R. Miles, D.Sc., F.G.S. Pp. 136 with additional index and map section.

This Bulletin No. 103 deals with the general and structural geology of an area of 6,500 sq. miles of country consisting predominantly of rocks of pre-Cambrian age in the Mount Margaret Goldfield, Western Australia. The report summarises, in a series of tables, the economic geology of the various mining centres therein. Gold is the principal mineral of economic importance. Lengthy geological and petrological descriptions have been avoided in Part I, and the presentation of concise information in tabular form has been adopted where suitable. A comprehensive summary.

Brown Coal.—By Dr. H. Herman, B.C.E., M.M.E., D.Sc. Written for the State Electricity Commission of Victoria, Australia, and published by the Commission. Pp. 612 with illustrations in half-tone and line, and with references and index. Distributed by The Tait Book Co., Ltd., 349, Collins Street, Melbourne, Victoria, at 4 gns. plus 4s. postage and packing.

The author of the work under notice was formerly Engineer-in-Charge Briquetting and Research for the State Electricity Commission of Victoria, and later was Consultant to the Commission, and his work is presented as the first comprehensive volume on the subject of brown coal to be published in English. The book gives a broad survey of the status of brown coal in the technical and industrial worlds of the present time, and may be regarded primarily as a work of reference for those connected with the utilization of the extensive brown coal resources of Victoria. The Victorian and Australian aspects of brown coal are covered comprehensively by the author, who deals with the physical and chemical characteristics of the deposit, geology, coal winning methods, briquetting, combustion in boiler furnaces, the pulverized fuel locomotive, and town gas manufacture.

The work includes also a study of the nature and industrial development of similar fuels in other parts of the world, and its readable style will broaden its value to include those without specific technical training, as well as engineering and scientific workers, to whom it will primarily appeal.

Head Wrightson Products for the Mining Industry

Although the Head Wrightson group of companies manufacture equipment for a wide range of general engineering purposes, a considerable proportion of their productive capacity is directed to the mining industry and for this reason the units supplied by companies in the group for installation at mines—both coal and metalliferous—on surface or underground are of particular interest. The following article notes the wide ramifications of the group, and outlines the contributions the company has made to the mining industry both at home and abroad.

The original Head Wrightson company was established in 1859, and since those days has been divided into ten principal divisions and subsidiary companies. Eight of these are situated on Tees-side, one in London, and one which is chiefly concerned with the manufacture of mining equipment, in Johannesburg. In Australia, Head Wrightson has been represented by Gibson Battle & Co., Ltd. of Sydney for thirty years, and an association between this company and the Head Wrightson group was recently arranged.

Of the Head Wrightson divisions in Britain, that at Stockton Forge, which occupies nearly nine acres and employs about 500 men, is perhaps of greatest interest to the mining engineer. This division has been engaged in the manufacture of equipment for collieries and metalliferous mines since the closing years of the last century, and is stated to be equipped with what is probably the most modern British machinery for the manufacture of heavy mining units. This equipment is specifically intended for ore treatment operations, as well as many departments of surface and underground mining engineering.

On the ore mining and treatment side, important units made at Stockton Forge include mine headframes and their accessories, ore bins and surface buildings, ball, rod and tube mills, as well as Akins classifiers, and Lowden and Ruggles-Coles dryers, and some hundreds of these units have been installed during this century.

The Akins, Lowden and Ruggles-Coles dryers are manufactured under licences from American associates, although all the other equipments mentioned above are designed by the company's engineers. Lowden and Ruggles-Coles dryers have been manufactured in many sizes up to 12 ft. width by 60 ft. and 9 ft. diameter by 70 ft. respectively.

The headframes made at Stockton Forge range in height from 30 ft. to 180 ft., the different varieties of mills grade from 2 to 9 ft. in diameter and the classifiers from 12 in. to 78 in. in spiral diameter, the last two machines being used in closed circuit for grinding gold, copper and other ores. Equipments from this division may be found throughout the Eastern Hemisphere; particularly in South, West and East Africa, Northern and Southern Rhodesia, the Belgian Congo, India, Malaya, and Turkey, as well as in Norway.

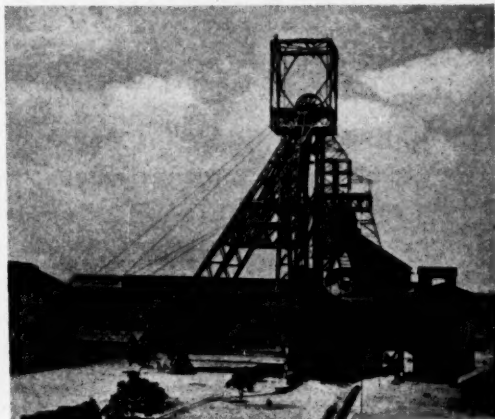
EQUIPMENT FOR COAL MINES

Insofar as equipment for coal mines is concerned, the division has specialized in headframes, surface buildings and coal screening plants since its inception, and has made numerous installations of these units. Since the beginning of the Second World War, Stockton Forge has pioneered and installed several coal skip winding plants in England, in association with Qualter, Hall & Co., Ltd. Other coal skip winding plants are at present being manufactured for service both in Britain and in overseas countries. This new and economical development is now being widely adopted, but as an alternative practice, the division supplies in addition cage winding plants in

which the coal is raised in 5-ton cars.

Since the end of the last war the division has undertaken the design and manufacture of complete coal cleaning plants in collaboration with Colliery Engineering Ltd., and in addition has installed material handling plants for ores and other materials in many parts of the world. Vibrating screens are also manufactured for many varied duties, and a recent development of interest is the manufacture of large dewatering filters for the oil refining industry.

During the last fifty years, extensive new shops have been erected at Stockton Forge, fully equipped with modern machinery and a storage and loading gantry have been built. All the shops and the gantry are well provided with overhead cranes.



A mine headframe in Northern Rhodesia

Head Wrightson Processes Ltd., a division formed in 1941 to undertake oil refinery work, became a subsidiary in 1944 and specializes in petroleum refinery, petro-chemical and chemical plant work, and in collaboration with American associate companies provides services for research, design, engineering, procurement, construction, erection and commissioning for specific units or complete refineries. Close contact is maintained with many of the large American petroleum plant licensing companies. An association with the Fluor Corporation Ltd., of Los Angeles, permits Head Wrightson Processes Ltd. to supply all Fluor specialized products and processes such as water-cooling towers and Fin Fan atmospheric cooling units. These Fluor specialties are manu-

factured and supplied from the United Kingdom. A staff of engineers and draughtsmen in London is capable of dealing with the technical and engineering aspects of petroleum refinery or chemical plant problems, while a team of project engineers and supervisory personnel is also maintained for schedule and development work.

Much of the equipment designed by this company is manufactured or fabricated by other divisions of the Head Wrightson group.

LARGEST UNIT OF THE GROUP

The Process Plant department of the Engineering division at Teesdale Ironworks produces much of the equipment designed by Head Wrightson Processes Ltd. The Engineering division is the largest unit of the Head Wrightson group, and occupies a key position in the organization. In the wagon department of the division all types of standard steel wagons to R.C.H. specification are produced, and in addition designs and fabricates are made for any type of special purpose wagon such as transformer, tank, and dump wagons. Among these rolling stock pieces which have possible applications to the mining industry are 30/45 ton ore hopper wagons with bottom doors; 50 ton capacity air operated dump cars; 100 ton capacity electrically propelled transfer cars, and 400 cu. ft. capacity electrically propelled scale cars.

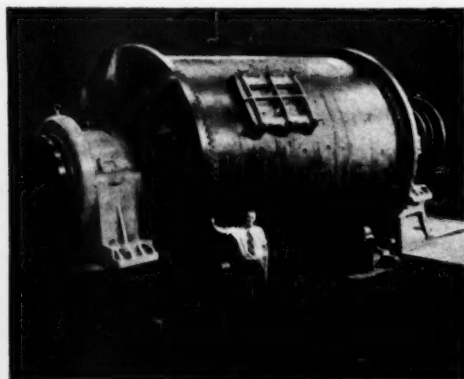
One of the oldest of Head Wrightson activities is the production of iron castings for use in a number of branches of industry. The combined output at the Teesdale and Egglecliffe plants which comprise the division totals approximately 50,000 tons annually, consisting in the main of haematite ingot moulds, bottom plates for the steel industry, cast iron tunnel segments and other pieces. An interesting conjecture of what can be accomplished in underground development is raised by consideration of the London underground transport railway system. The underground train tunnel can be regarded as the largest loco haulageway in the world, and it is lined with substantial tonnages of cast iron tunnel segments produced by the engineering division of Head Wrightson.

In similar case are the tubing segments for mine shafts which the division manufactures for use both in Great Britain and overseas countries. The recent installation of cast iron segments in a Midland colliery shaft was mentioned in *The Mining Journal* of July 4, 1952. In addition to these equipments, the division produces numerous specialized castings for collieries, and other castings have included a cast iron rope drum 5 ft. in diameter by 6 ft. wide with the grooves cast in.

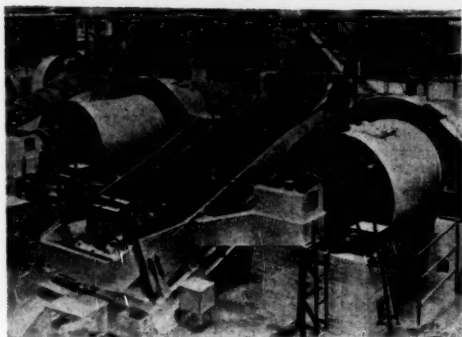
OTHER BRITISH DIVISIONS

Other Head Wrightson divisions situated within Great Britain include the McKee Iron & Steel division, which since 1945 has been entrusted with contracts covering the construction of eight sinter plants among other installations, the Steel Castings division, the Head Wrightson Machine Co., Ltd., and Head Wrightson Stampings Ltd. which produces forgings and drop stamping pieces. Several of these, such as screw couplings, have applications in the mining industry. The possibilities of aluminium and other light alloys for structural and other uses in the place of steel led to the formation in 1946 of Head Wrightson Light Alloy Structures Ltd. This company has carried out research into the use of special light alloy extrusions, and in 1950 received an order for an all-aluminium store for the Anglo-Iranian Oil Co.

More specific information regarding the products of these divisions tells that the McKee Iron and Steel division has been granted contracts for the construction of seven blast furnaces and two gas cleaning plants besides the eight sinter plants already mentioned, and that a contract shortly to be completed includes a unit stated to be the largest blast furnace outside the United States, together with complete gas cleaning, ore preparation, and sinter equipment. The Steel Castings division produces trunnions of different types among other equipments, and has been developed since 1919 when the manufacture of steel castings was begun by Head Wrightson with the installation of a three-ton electric arc furnace. In 1927 the Stockton Steel Foundry was acquired, and castings can now be produced in carbon and manganese steels, in practically any alloy steel, and specialties are heat resisting, stainless, nickel-chrome-molybdenum and manganese steel castings. Weights range from a few pounds to approximately 15 tons.



12 ft. by 16 ft. tube mill



Mills and classifiers in South Africa

The Head Wrightson Machine Co., Ltd. is situated in Middlesbrough and has extensive facilities for the production of rolling mills and ancillary equipment for the manufacture of bars, tubes, sections, sheet, strip and plate in steel and non-ferrous metals. A considerable volume of equipment incorporating special designs has been exported in recent years, and reciprocal arrangements with the Aetna Standard Engineering Co., America, permit an interchange of technical information. Head Wrightson has produced forgings and drop stampings since its earliest days, as well as draw gear and screw couplings. Eventually the growing demand for drop forgings led to the establishment of Head Wrightson Stampings Ltd. where, in a plant designed from experience of latest developments in Great Britain and the United States, drop hammers ranging from 1 ton to 5 tons and forging machines to upset bars up to 4 in. diameter are in constant production.

DEVELOPMENT IN THE DOMINIONS

The active interest taken by the group in the development of the Dominions overseas is typified by their activities in South Africa and Australia. The group's interests in South Africa are handled by Wright Boag & Head, Wrightson (Pty) Ltd. as the operating company, which has a large manufacturing plant at Benoni, Transvaal. The general manufacturing shops occupy some 30 acres, and the mining equipments manufactured on this site include crushing, sorting and screening plant, rod, tube and ball mills, Akins classifiers and densifiers, Lowden and rotary dryers, as well as hoists, pumps, filters, screens, tanks, and thickeners, headgears and side discharge cars of 30, 40, and 50 tons capacity.

A separate shop with a floor area of 13,000 sq. ft. is devoted solely to the manufacture of earth moving equipment under licence from the Caterpillar Tractor Co. of America. The mining equipments manufactured at Benoni are destined for the mines of Southern Africa and the plant executes much repair work for the gold mines of the Witwatersrand.

Head Wrightson are represented in Australia by Messrs. Gibson Battle & Co., Ltd. Initial activities in Australia included the supplying of screening plant for coal mines in New South Wales, and later ore treatment plant for the metalliferous mines of Queensland and Western Australia, as well as other items of equipment produced by the group. The engineering shops of Gibson Battle & Co., Ltd. comprise a boiler bay shop 50 ft. by 300 ft. with a five ton overhead crane, a machine shop of equipment produced by the group. The engineering crane, and a press shop, tool shop, stores, pattern shop and steel stockyard. On a separate site an iron foundry produces per annum 1,000 tons of general castings up to 3 tons.

In addition to being able to supply and install Head Wrightson products whenever this procedure is applicable, Gibson Battle & Co., Ltd. are capable of designing and manufacturing in their own workshops, or of importing from abroad, certain items of mining equipment. These include coal and metalliferous mining plant as well as complete foundry plant, irrigation and water control equipment, iron and steel-works plant, and industrial and general equipment.

METALS, MINERALS AND ALLOYS

COPPER.—Prospects for the decontrol of copper—earlier rather than later—have improved this week with the announcement that the I.M.C. is to make a review of the copper supply and demand situation at the end of next month "to ascertain whether allocation need be continued for the remainder of the quarter." Meanwhile, I.M.C. quota allocations for the first quarter of 1953 have been announced totalling 723,080 tonnes of primary copper to be distributed among 40 countries compared with a total of 747,655 tonnes in the current quarter. Of this total the U.K. is to receive 100,000 tonnes compared with 101,800 tonnes in the current period. The U.S.A. receives 350,000 tonnes.

More freedom in end-usage of copper is also reported from three countries. In the U.K. all restrictions on the use of copper ended last Wednesday and Switzerland also lifted all its restrictions this week. As control over the use of zinc was lifted here some months ago the present relaxation also has the effect of removing restrictions on the use of brass with beneficial effect to a large range of consumer goods.

In the U.S. where relaxations on the use of copper in a wide range of constructional work has been announced for the New Year, Britain's action in removing all control on end-use was very well received by the American trade and seems likely to result in another plea by the U.S. copper industry for similar treatment.

In an interview with *The Times*' Santiago correspondent this week the Chilean president, General Ibanez, denied emphatically that his Government had any intention of nationalizing the Chilean copper mines. He is reported as saying that "nationalization was not at present fundamental to the national economy, and on the contrary might cause harm." He added that his Government would welcome the investment of foreign capital in Chile.

It is reported that Representative Patterson is planning to introduce legislation in the new Congress to ensure the continuation of the suspension of import duties while copper remains scarce.

The following are the American Copper Institute's figures of world refined copper production for November, together with the stock position. All figures are in short tons. In notable contrast to the general feeling that the copper supply position is easing, is the fact that at the end of November stocks, both in the U.S.A. and the rest of the free world were at the lowest level for some years.

	Production			Stocks		
	Nov. 1952	Jan.-Nov. 1952	Jan.-Nov. 1951	Nov. 1952	Oct. 31, 1952	Nov. 30, 1951
U.S.A.	100,075	1,075,147	1,101,252	69,237	59,760	68,160
Other countries	87,205	1,096,136	1,115,837	131,527	143,872	166,640
World.....	187,280	2,171,283	2,217,089	200,764	203,632	234,800

LEAD.—The U.K. lead price has remained pretty firm this week and as indicated by our London Metal Exchange correspondent elsewhere, the slight backw ardation that has developed is probably in considerable measure due to the heavy flow of re-exports to the States which in the past three months may have totalled 20-25,000 tons. The New York market has remained quiet although the spot price has been steady at 14c.

U.K. PRIMARY METAL STATISTICS—OCTOBER (long tons)

	Refined Copper			Lead†			Slab zinc			Tin metal		
	Oct. 1952	Jan.-Oct. 1952	Jan.-Oct. 1951	Oct. 1952	Jan.-Oct. 1952	Jan.-Oct. 1951	Oct. 1952	Jan.-Oct. 1952	Jan.-Oct. 1951	Oct. 1952	Jan.-Oct. 1952	Jan.-Oct. 1951
U.K. stocks beginning period	93,449	87,251	72,960	109,323	77,167	61,687	133,690	39,659	36,256	4,006	8,004	4,504
Imports	15,983	186,915	180,518	12,334	125,948	125,620	18,261	195,027	96,157	26	2,713	8,318
Production	14,513	128,499	109,808	9,125	73,508	60,051	5,453	55,158	59,320	2,525*	24,559*	20,660*
Consumption	30,981	299,864	273,025	710,268	157,351	198,515	15,602	146,440	154,501	2,066	18,895	20,152
Exports and Re-exports	92	536	689	10,229	15,093	Nil	26	130	23	1,066	20,734	5,144
U.K. stocks end period:	90,018	90,018	99,762*	107,160	107,160	47,322	142,615	142,615	35,684	3,666	3,666	6,372

(Source: British Bureau of Non-Ferrous Metal Statistics)

*Estimated by International Tin Study Group. †Includes imported virgin lead and English refined from domestic ore and secondary metal. ‡Including any Government stocks other than strategic reserves. †In addition U.K. stocks of blister copper at the end of October were 29,034 tons; of zinc concentrates were 50,438 tons; and of tin in ore were 3,059 tons.

TIN.—Aroused no doubt in part by the prospect of favoured treatment for American stockholders in the Bolivian mines, and fortified perhaps by their Government's own repudiation of nationalization of the mining industry at home, a group of Chilean stockholders in the Hochschild subsidiary, the Compañía Minera de Oruro (representing an investment of several hundred million Chilean pesos since the beginning of the century) has come out with an assertion that the procedure followed by the Bolivian Government is contrary to the Constitution and laws of its own country and calls for an immediate impartial appraisal of the company's properties and for prompt and effective compensation as called for in Bolivia's own laws.

Meanwhile Bolivia is reported to have proposed a compensation scheme to U.S. investors in exchange for a long-term tin contract. According to *Reuter* this scheme is being studied in Washington but no decision has so far been reached.

The Tin Study Group's tin in ore output figures for the main producing countries for the first ten months of this year are given below in long tons. Indonesia and the Congo both make an improved showing over the corresponding period of 1951.

Country	October, 1952	Jan.-Oct., 1952	Jan.-Oct., 1951
Belgian Congo.....	1,409	11,029	10,442
Bolivia*	2,772a	25,114b	24,444c
Indonesia.....	3,048	28,713	25,342
Malaya.....	4,801	47,095	47,363
Nigeria.....	710	6,781	7,049
Thailand	866	7,588	7,911

*Exports: a—Sept., 1952; b—Jan.-Sept., 1952; c—Jan.-Sept., 1951.

ZINC.—The Ministry of Materials has very wisely announced the details of its arrangements for the orderly disposal of its zinc stocks in advance of the resumption of dealings on the Metal Exchange, thus obviating the element of uncertainty that existed when dealings were commenced in lead this autumn. The Ministry has agreed to sell back 24,000 tons of zinc to Commonwealth producers—or rather to their agents—each producer being offered his own brand. This metal will be available for immediate delivery as required throughout the first half of next year. No other zinc from the Ministry's stock will be placed on the market during this period except for prompt sale by the Government broker when no other supplies are available. Mr. F. C. Chissell, managing director of Anglo Metal Ltd., will act as Government broker. The pricing of the above 24,000 tons will be on the basis of the monthly average of the Metal Exchange quotation over the period February-July 1953 at the rate of 4,000 tons per month. This arrangement will allow a representative free market price for the metal to be established during January before the pricing period commences.

It will be apparent from this announcement that producers have shown considerably less readiness to re-absorb Government stocks of zinc than was the case with lead. This is not surprising in view both of the greater diversity of brands and qualities which obtain in the zinc market and also having regard

to the considerable uncertainty as to the future of the zinc market. Also it may be presumed that in the case of lead, producers had had the opportunity of seeing how the market was shaping up before agreeing on the quantity they would take back. It may well be that in the course of next year we shall see the producers reabsorbing further quantities of Government metal if the recent improvement in consumption both here and in the States is maintained. Meanwhile, the Ministry of Materials is apparently being left with over 100,000 tons of zinc on its hands.

COBALT.—In contrast to the I.M.C.'s decision to end cobalt allocation because essential requirements have been met, the D.P.A. has set a revised target of 27,000,000 lb. of cobalt per annum from foreign and domestic sources by 1955. This represents an increase of 6,000,000 lb. over the target announced in May, and is 17,000,000 lb. more than the U.S. output of 10,000,000 lb. in 1950.

QUICKSILVER.—The New York price of quicksilver moved up again this week and is currently quoted at \$215-217 per flask nominal.

Exports from India from the middle of October to the end of November totalled 4,500 flasks selling at between \$158-168 per flask. Exporters are reported to be holding a further 5,500 flasks for immediate shipment while total stocks in the country are put at 19,000 flasks.

The London Metal Market

(From Our Metal Exchange Correspondent)

The tin market has been less steady than of late, and this can be attributed to slackening industrial demand due to the time of year, to the decrease in the backwardation which has accompanied a further increase in U.K. stocks, and to more offerings of cash and nearby metal. In Singapore the market remains steady with daily offerings being easily absorbed.

The Eastern price on Thursday morning was equivalent to £960 10s. per ton c.i.f. Europe. On Thursday afternoon the London market was very steady.

The lead market has still a firm undertone although there have been day-to-day fluctuations, and the main point of interest is the creation of a slight backwardation for both December and January over the forward month, and it is possible that this state of affairs will continue until the January settlement has taken place. After that date a clearer picture will be available of the basis of the lead market, as by then the market will have been in continuous operation for four months. Dealings in prompt metal have become fewer, and it is hoped that the price will soon be based on the current month quotation plus the landing, warehousing and duty charges and a small premium, although this may not happen for a few weeks owing to the small tonnage of available metal still in Government hands and the heavy shipments which have taken place across the Atlantic. On Thursday afternoon the market was steadier but quiet.

There has been no change in the copper or zinc markets either on the Continent or in America.

	December 11		December 18	
	Buyers	Sellers	Buyers	Sellers
Tin				
Cash	£947 15s.	£948 5s.	£945	£946
Three months	£944	£944 10s.	£943	£943 10s.
Settlement				
Week's turnover	345 tons		755 tons	
Lead				
Current month	£96 10s.	£96 15s.	£96 10s.	£96 15s.
Three months	£96 10s.	£96 15s.	£96 5s.	£96 10s.
Week's turnover	4,950 tons		4,550 tons	

Iron and Steel

Obviously the record output of steel last month was only achieved by an immense concentration of effort and the same atmosphere of hectic activity has been preserved throughout the current month. If all the Period IV allocations are not covered by the end of December—in which case they must be either cancelled or re-authorized—it will not be for any lack of endeavour on the part of the iron and steel producers.

In response to the urgent needs of the heavy industries most of the steel workers have agreed to sacrifice their Christmas holidays. The rolling mills will be laid idle for a few days to enable the millwrights to execute much needed repairs, but

the bulk of the plant—coke ovens, blast furnaces and melting shops—will be working as usual, and ingot production will not fall very substantially below the November level.

A shortage in export business is the normal experience at this period of the year. It occasions no serious apprehensions since home requirements are simply overwhelming. Impressive tonnages are wanted by shipbuilders, engineers, power plant producers, wagon and locomotive builders while sheet makers are under constant pressure for both black and galvanized sheets for a wide variety of purposes. From all these sources there is every indication of a well sustained demand throughout the first half of next year, and for this reason some control over deliveries is essential to avoid chaos.

Many consumers have received their allocations for Period I of 1953 and are seeking coverage. Hence the iron and steel market has been particularly lively during the past week.

Producers are optimistic. Apart from scrap they are receiving better supplies of raw materials, and bigger outputs of pig iron offset the deficiencies in scrap deliveries. Moreover, the new blast furnace at Shotton—said to be the biggest in Europe—is almost ready for operation and this will give a new and powerful impetus to pig iron production.

It has also been officially revealed this week that iron and steel development schemes proposed by 46 companies at an estimated cost of about £151,000,000 have been approved by the Iron & Steel Corporation. This represents about one-half of the capital expenditure envisaged in the second post-war development plan.

DECEMBER 18 PRICES

COPPER

Electrolytic £285 0 0 d/d

LEAD AND TIN

(See our London Metal Exchange report for Thursday's prices)

ZINC

G.O.B. spelter, foreign, duty paid ... £110 0 0 d/d
G.O.B. spelter, domestic ... £110 0 0 d/d
Electrolytic and refined zinc ... £114 0 0 d/d
Special high grade ... £116 0 0 d/d

ANTIMONY

English (99%) delivered, 10 cwt. and over ... £225 per ton
Crude (70%) ... £210 per ton
Ore (60% basis) ... 20s. — 22s. nom. per unit, c.i.f.

NICKEL

99.5% (home trade) ... £454 per ton

OTHER METALS

Aluminium, £166 per ton. Osmiridium, £40 oz. nom.
Bismuth (5 cwt. lots) 17s. 6d. lb. Osmium, £65/£70 oz. nom.
(min. 2 cwt. ex-warehouse). Palladium, £15s./£18 10s. oz.
Cadmium (Empire), 14s. 4d. lb. Platinum, £27/£33 5s.
Chromium, 6s. 3d./6s. 7d. lb. Rhodium, £42 10s. oz.
Cobalt, 20s. lb. Ruthenium, £25 oz.
Gold, 248s. f.oz. Quicksilver, £70 10s./£71 ex-warehouse
Iridium, £60 oz. nom. Selenium, 25s. nom. per lb.
Magnesium, 2s. 10½d. lb. Silver 72½d. f.oz. spot and f'd.
Manganese Metal (98% - 98%) Tellurium, 18s./19s. lb.
2s. 2d./2s. 3d. per lb. d/d

ORES, ALLOYS, ETC.

Bismuth ... 60% 9s. 6d. lb. c.i.f.
50% 8s. 6d. lb. c.i.f.
Chrome Ore—Rhodesian Metallurgical (lumpy) £13 2s. per ton c.i.f.
" " (concentrates) £13 2s. per ton c.i.f.
" " Refractory £12 14s. per ton c.i.f.
Baluchistan Metallurgical ... £14 15s. 6d. per ton c.i.f.
Magnesite, ground calcined ... £26 - £27 d/d
Magnesite, Raw ... £10 - £11 d/d
Molybdenite (85% basis) ... 105s. 10d. per unit c.i.f.
Wolfram (65%) ... 410s. c.i.f. U.K. buying
" " " 432s. 6d. d/d U.K. selling
Scheelite ... 400s. c.i.f. U.K. buying
" " " 422s. 6d. d/d U.K. selling
Tungsten Metal Powder ... 30s. 8d. nom. per lb. (home) (for steel manufacture)
Ferro-tungsten ... 27s. 6d. nom. per lb. (home)
Carbide, 4-cwt. lots ... £32 3s. 9d. d/d per ton
Ferro-manganese, home ... £49 0s. 8d. per ton
Manganese Ore U.K. (48% - 50%) ... 6s. per unit
Brass Wire ... 2s. 8½d. per lb. basis
Brass Tubes, solid drawn ... 2s. 2½d. per lb. basis

COMPANY NEWS AND VIEWS

Consolidated Gold Fields Prospects for Current Year

The impressive increase in the profits obtained by New Consolidated Gold Fields, the wholly owned subsidiary of Consolidated Gold Fields of South Africa, referred to previously in these columns in our issues of November 14 and November 21 last, was due principally to the profit made on the disposal of the company's entire shareholding in Southern European Metal Corporation, which controlled a zinc mine in Northern Italy where exchange difficulties were proving detrimental to the company's interests. This was disclosed at the annual meeting of Consolidated Gold Fields held in London on December 11 last by Mr. Robert Annan, the chairman.

Mr. Annan also said that present conditions indicates that profits from this department of the company's business was not likely to be maintained during the current year. However, this does not mean that the company will not continue to make good progress, for it has a particularly large stake in the far West Rand goldfields, the future of which is thought to be highly promising. West Driefontein, which recently started up production and is already the largest profit earner in the group, was destined, Mr. Annan said, to become one of the great gold mines of the world. Doornfontein is expected to begin production next year while the company's other holdings in this area, Blyvooruitzicht, Venterspost and Libanon are all forging ahead satisfactorily.

In the Orange Free State, he said that New Consolidated Free State Exploration Co. had continued drilling with encouraging results just north of Harmony, and that, subject to the results of further drilling now in hand, it is reasonably certain "that another mine can be established here which would be under our administration, and in which we would have a substantial interest."

Referring to the Company's interests elsewhere, Mr. Annan stated that jointly with the Colonial Development Corporation the company was examining certain prospects which were still in the very early stages of development. Since the date of the meeting, it has been announced that partnership arrangements have been made between the company and the C.D.C. for the investigation of two East African mineral deposits. One is a lead-barytes ore body located at Vittingini about 30 miles north of Mombasa, Kenya; and the other a gold ore body at Kiabakari in the Musoma district of Tanganyika.

Expansion of Géomines

The Géomines Co. operating near Manono in the Belgium Katanga is, so far as we are aware, the only company which has been able to announce important discoveries of tin in the last year or so. Particular interest therefore attaches to the particulars given in the report of the Board (which will be found in another column), and to the speech of the president, M. Léon Greiner, at the annual meeting held in Brussels on the 9th instant.

The particulars given while confirming the large eventual increase which the company hopes to secure in its output of tin and tantalite-columbite explains that these advances will only be secured gradually. At present the company is engaged on work preparatory to the exploitation of the zones of altered pegmatites developed up to the present, from which to date more than 70,000 tonnes of cassiterite have been won. The company's geologists estimate that quite 20,000 tonnes of cassiterite remain in these zones with a mean content of under one kilo per cu. metre, which can supply the old plant for another 10 years.

Production of tin for the year 1951-1952 was 2,503 tonnes of tin which realized an average price of B.Frs.139,000 per ton; 110 tonnes of tantalite-columbite worth Frs.69,000 per tonne and 900 tonnes of tantalite slag worth Frs.6,500 per tonne. During the succeeding five months of the current year 1,620 tonnes of cassiterite (including 386 tonnes from hard rock) 45 tonnes of tantalite-columbite and 400 tonnes of slag were produced, towards an estimated production for the full year of 4,200 tonnes of cassiterite, 120 tonnes of tantalite-columbite and 1,000 tonnes of slag. This represents an increase of about 18 per cent over the previous year. Any further big increase in output must await the completion of the new turbines of the central power station due in 1956 and when in full operation the enterprise should yield an output of between 7,000 and

8,000 tonnes of cassiterite yearly, as compared with the 4,200 tonnes expected in the current working year.

The tin content of the altered pegmatites is about one kilo of cassiterite per tonne while that of the hard rock is between 2 and 2½ kilos. Treatment of the hard rock will, however, cost more, the estimate being 10 to 15 per cent higher. While the future of the Géomines as a tin producer is obviously very favourable, the necessity of meeting the heavy cost of new installations has obliged the Board to pass the dividend for this year.

It must also be borne in mind that when the discovery of deposits in depth in hard pegmatites was announced the chairman added a *caveat* that the increased output would be disposed of with due regard for the conditions of the market. The further particulars now given seems to suggest that even the doubling of the output over the current rate of production should hardly be sufficient in itself to disorganize the tin market unless the United States decides that it will turn to substitutes on a large scale.

Wankie Concludes Agreement for Higher Coal Price

At the first annual general meeting of Wankie Colliery to be held in Salisbury, Southern Rhodesia, since the effective transfer of the company's control and management on March 31 last, Mr. Robert Foot, chairman, said that agreement had been reached with the Southern Rhodesian Government for an increase in the price of Wankie coal supplied to Northern and Southern Rhodesia and Nyasaland consumers, including the copper mining companies, to approximately 20s. per ton as from January 1 next.

The new coal price, he stated, would be in the neighbourhood of 20s. per ton as the actual price to any consumer was dependent upon quantity and grade supplied. This meant that the maximum profit margin in future would be 6s. 6d. per ton instead of 5s. per ton. However, the price may be revised at any time during the year to meet either upward or downward trends of cost.

Mr. Foot, who will be in London during January consulting with the company's financial advisors to arrange for the raising of new capital to finance plans for expanding the company's output capacity from 3,800,000 tons to 5,000,000 tons, said that an extraordinary meeting of shareholders would be held in the New Year, at which the recommendations concerning the raising of this new capital would be submitted for their consideration.

The company's plan to raise output capacity would entail the opening of a third underground colliery instead of increasing production by opencast methods.

Turner & Newall Raise Dividend to 25 Per Cent.

Consolidated profits of Turner & Newall for the year to September 30 last, after providing £372,357 against £148,520 for depreciation of investments, are announced in a preliminary statement at £14,332,938 compared with £13,326,663 in the preceding year.

Consolidated working profit after providing £2,566,701 against £2,213,158 for depreciation, inter-company profits writing down trade investments, etc., was £11,766,237 compared with £11,113,505. But taxation liabilities absorbed £8,001,072 (£6,560,205) thus reducing net profit for the year to £3,765,165 against £4,553,300.

The company is recommending a final dividend of 20 per cent making, with the interim already paid, 25 per cent for the year against 20 per cent for the preceding year. The allocation to general reserve was raised from £500,000 to £600,000 and the carry forward at the financial year-end was £1,690,840 compared with £1,493,480 brought in.

B.O.M.A. Restates Its Case

The greatest handicap of the British overseas mining industry remains the inequitable and over-burdensome taxation imposed in this country, declared Mr. R. L. Prain, at the annual meeting of the British Overseas Mining Association, held on December 17 last.

As a result of the present U.K. tax system the development of new overseas mines from this country is now virtually prohibited, he added, and the long-term effect of this strangling

of one of our most important industries can only be most damaging.

Rand Dividend Season Closes

The December Rand dividend season closed this week with the half-yearly declarations from the operating companies in the Central Mining—Rand Mines, Union Corporation and Johannesburg Consolidated group of mining companies.

Company	June (1951)	Dec. (1951)	June (1952)	Dec. (1952)
Central Mining	s. d.	s. d.	s. d.	s. d.
Blyvoor	1 4	1 4	1 6	1 6
City Deep	3 0	2 6	1 6	1 0
Cons. Main Reef	3 6	3 6	2 9	2 3
Crown	5 6	4 6	2 6	2 6
Durban Deep	2 6	2 6	2 6	2 0
E. Rand Prop.	2 6	2 6	2 6	2 6
Modder East	3 0	2 6	2 0	1 6
Rose Deep	2 9	2 6	1 9	1 3
Rand Mines	3 6	3 6	3 0	3 0
Trans. Gold	1 0	3	9	9
Union Corporation				
E. Geduld	2 1	2 3	2 0	2 1
Geduld	7 3	7 6	6 3	6 3
Grootvlei	1 6	1 6	1 3	1 3
Marievale	1 0	1 0	10	10
Johannesburg Consolidated				
E. Champ d'Or	4½	4½	3½	3½
Govt. Areas	1 1½	1 0	1 0	1 0
N. State Areas	7½	7½	4½	3
Randfontein	1 3	1 0	9	1 0
Wit. Gold	1 6	Nil	Nil	Nil

Although it was expected that the current distribution of the operating companies in the Central Mines—Rand Mines group would be maintained at the June level, in fact, only five of the ten companies in this group listed above maintained their June payments, the remaining 50 per cent all showing a reduction of 6d. per share compared with their payments six months ago.

The four operating companies in the Union Corporation group came out well. East Geduld paid more and the other three companies maintained their dividend payments at the June level.

In the "Johannesburg" group, two of the companies maintained their payments at last June's rate, but Randfontein raised its distribution from 9d. to 1s., thus restoring the cut made in December, 1951. New State Areas, however, paid less than it did last June. Wit Gold, of course, is now making returns of capital in lieu of dividends.

De Beers Investment Trust—A New Finance Company

In his address to shareholders of De Beers Consolidated Mines at the last annual general meeting held on June 4 last, the chairman, Sir Ernest Oppenheimer, drew attention to the strong cash position which had been built up by the subsidiary, Diamond Corporation. These resources, generally speaking, were in excess of the corporation's requirements for protecting the diamond trade under all conditions, and it may be recalled that the directors proposed to employ these additional funds by participating in the development of the mining industry of South Africa in much the same way as De Beers Industrial Corporation was participating in the industrial development of the Union.

In the interim period careful consideration has been given to the form which would best serve this purpose and it has now been announced that the Diamond Corporation will be divided into two companies by forming a new company to be known as De Beers Investment Trust.

The new company was registered on December 10 last with a nominal capital of £12,000,000 in 12,000,000 shares of £1 each. In future, the Diamond Corporation will confine its activities to the diamond trade and will, as in the past, the announcement states, devote its energy and resources to the continued stability and well-being of the diamond industry. The function of the new company, De Beers Investment Trust, will be to look after the financial side of the Diamond Corporation's business and it is confidently anticipated "that it will develop into a large and influential financial house which will play an active part in the national development of the Union of South Africa, and in turn be a source of strength to the De Beers company and its associates as well as to the economy of the country generally."

CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA LTD.

The Annual General Meeting of the Consolidated Gold Fields of South Africa Ltd. was held on December 11 in London.

Mr. Robert Annan, the Chairman, in the course of his speech, said: The working profit of New Consolidated Gold Fields Ltd. for the year amounted to £1,996,000. Profit on realization of investments and sundry revenue, which from the nature of our business is subject to considerable fluctuation, shows an increase of £680,000 at £1,072,000, to which the profit on the disposal of our shareholding in Southern European Metal Corporation made the principal contribution. Present conditions indicate that the increased profit from this department of our business is unlikely to be maintained in the current year.

A more stable source of revenue is the dividends on our investments, and it is satisfactory that at £1,154,000 the record which we achieved last year has been slightly exceeded without this year drawing on the profits of our American subsidiary.

As the operating company has declared a dividend of 3s. per share, less tax, on its Ordinary shares, your directors now recommend the payment of a like dividend on the Ordinary shares of the parent company.

At the present official price of gold, 14.2 dwt. out of each ounce produced was required to cover working costs. With the exception of the period between 1946 and 1948, this is the highest figure in the twenty years since the departure from the old standard price of gold. In other words, the profit margin in terms of gold at its official price is now little more than it was before devaluation had taken place in September, 1949, and less than it was at the first departure from the gold standard in 1932.

The principal event in our financial year was the start of production at West Driefontein in February, 1952, seven years after the formation of the company and after an expenditure of over £7,000,000 on development and equipment. So successful has this been that, after declaring a modest profit in its first month of operation, it is already the largest profit earner in the group.

At Doornfontein, the sinking of No. 1 Shaft was resumed in July, 1951, and at the end of October, 1952, it had reached a depth of 3,518 ft. Sinking of the Annan Shaft was completed at 4,736 ft. in September, 1951. Good progress has been made with the equipment of this shaft, and development was resumed in May, 1952. Since then a considerable part of the work has been off reef in shaft stations and crosscuts, but up to the end of October 2,010 ft. of reef development had been sampled of which 82.1 per cent proved payable, averaging 10.0 dwt. over 45 in.

On the property of West Witwatersrand Areas Ltd. drilling has been continued on the large area west of Doornfontein. Borehole E.9K gave interesting results in the Livingstone-Johnstone reefs which had previously been disclosed in Borehole E.11 and E.11C four miles farther west; and Borehole E.9K has recently made encouraging intersections of Main Reef and Carbon Leader.

The main assets of West Witwatersrand, however, are its shareholdings in the operating companies on its area. With Blyvooruitzicht fully established and West Driefontein rapidly developing as mines of exceptional richness, with Venterspost and Libanon in steady production and Doornfontein approaching the production stage, the prospects for West Witwatersrand in the future are bright.

The development of new mines in the Orange Free State is proceeding steadily and, of the thirteen operating companies formed in this area, two are now producing and five more are developing on reef. Our New Consolidated, Free State, Exploration Co. Ltd. has continued its programme of drilling with most encouraging results in the Saaipiaas Area.

THE OUTLOOK

Of our other interests in the Union of South Africa we have a substantial investment in the Rustenburg Platinum Group, chiefly through the medium of the Waterval Co. This interest has been increased during the past year by reason of the share issues to finance the expansion of production by Rustenburg.

So far as the immediate prospects for our company are concerned, I think I have made it clear that our results for the past year have been influenced by several favourable factors, and for this reason should be regarded as above average.

Taking the longer view, it is satisfactory that the greater part of our gold mining investment is in mines of considerably higher grade than the present average of producers and include several which have still to come into production in the next two or three years. Our investment in platinum production has become highly profitable; while our base metal interests may be subject to fluctuation this is not abnormal and the mines in which we are mainly concerned are established producers with previous experience of falls in metal prices. When we survey our progressive and widespread interests we have, I believe, every reason to look to the future with confidence.

The report was adopted.

WANKIE COLLIERY CO. LTD.

MR. ROBERT FOOT'S SPEECH

The Twenty-Ninth Annual General Meeting of the Wankie Colliery Co. Ltd. was held in Salisbury, Southern Rhodesia, on December 12, 1952.

Mr. Robert Foot, O.B.E., M.C., the Chairman, in the course of his speech said:—

This has been a year of progress in some important directions and of disappointment in others.

The most important step has without doubt been the transfer of the management and control of the Company to Southern Rhodesia. This transfer became effective on March 31 last, and the Head Office of the Company was established in Salisbury on that date.

THE DIRECTORATE

I have to refer—with great regret—to the resignations from the Board and from the Secretaryship which inevitably had to synchronize with the transfer of the control. The Directors who resigned at this time were Mr. S. H. Boileau, Colonel C. F. Birney, Mr. Edmund L. Hann, Mr. C. D. Hely-Hutchinson, Mr. P. Huffman and Mr. H. M. Lewis. All of them had made important contributions to the affairs of the Company during their tenure of their appointments, and their influence and interest before and during this important move were of great assistance and support. Our grateful thanks are due to them all.

It was with regret also that we had to say goodbye to our former Secretary, Mr. G. C. Stafford, who had given good and faithful service to the Company over many years.

In Mr. Stafford's place the Board appointed Mr. J. A. Bovey as Secretary of the Company, and we are well satisfied with our choice. Mr. R. L. Lechmere-Oertel who, beside myself, was the only other member of the old Board to make the move, is also the Senior Mining Director of Powell Duffryn (Rhodesia) Ltd.

On the establishment of the Board in Salisbury Colonel Sir T. Ellis Robins and the Hon. Humphrey V. Gibbs were appointed Directors. Both Sir Ellis Robins and Mr. Gibbs are Rhodesian citizens of distinction. Mr. Keith Hogan has also been appointed to the Board on the nomination of Powell Duffryn Ltd. Mr. Hogan is one of the leading commercial men in the Powell Duffryn Group.

THE ACCOUNTS

You will have seen from the accounts that our operations during the year resulted in a profit before taxation of £245,198 which, in spite of increased coal production, shows a drop of £38,198 compared with last year, which itself showed a drop of £54,473 as compared with the year before.

It has not been thought necessary to make any provision this year for Rhodesian taxation, as it is estimated that the Wear and Tear allowances on fixed assets and the Depletion allowance will be in excess of the assessable profits. It will be seen from the Profit and Loss Account that there is a small charge of £4,000 for United Kingdom Profits Tax, and that there is a credit of £31,919 representing previous taxation provisions no longer required.

The combined effect of all this is to leave a balance of profit for the year of £273,117, to which must be added the sum of £41,965 carried forward from the previous year, making together a total of £315,082 for disposal. Out of this amount the Directors have considered it prudent to transfer £95,000 to a new Reserve Account "Contingency Reserve" leaving the balance of profit unappropriated £220,082. To this new Contingencies Reserve the Directors have decided that, as the Company is no longer subject to United Kingdom Taxation, to transfer the amount of £155,000 which was hitherto held in the Taxation Equalization Reserve Account, thus making the total of the new Reserve Account £250,000.

As stated in the Report, the Company, as from February 1, 1952, increased the price of coal by 2s. 3d. per ton. This increase applied to all consumers, including the Northern Rhodesian Copper Companies, who, notwithstanding their long term fixed-price contracts, agreed to pay as from February 1 the same price as the Southern Rhodesian consumers. The Rhodesia Railways also, as from the same date, agreed to waive the preferential rights given to them under our present price control agreement. To these important consumers I would like to express our grateful thanks for the entirely voluntary concessions which they thus made.

INCREASING DEMAND FOR COAL SUPPLIES

During the year under review there has been a continuing, and indeed an increasing, pressure for coal supplies throughout all the Territories served by the Company, which, in addition to Southern and Northern Rhodesia, include Nyasaland, Bechuanaland, the Belgian Congo and Portuguese East Africa. Notwithstanding the fact that the curve of the Company's saleable output is continually rising there is, I am sorry to say, still a

serious coal shortage throughout the Territories which will not be completely overtaken until the third Colliery—which is now in the stage of active development—comes fully into operation giving the Company an output capacity of 5,000,000 tons a year. The continually growing demand places great responsibilities upon the Company and the Railways. We have great and important tasks in front of us both which must be tackled with equal energy and determination, with full financial provision in each case for the capital required for these essential expansions.

The actual output of saleable coal during the year was 2,594,178 tons. This represented an increase of 10.8 per cent over the previous year's total of 2,342,133 tons. It is not without interest and encouragement to note the progress that has been achieved during the last five years. Our 1949 production was 14.8 per cent greater than 1948. In 1950 it was 29.2 per cent, in 1951 it was 41.2 per cent and this year 56.4 per cent greater than in 1948.

The reason why, notwithstanding the very considerable additional tonnage sold, the profits for the year were nearly £40,000 less than for the previous year is, stated quite bluntly, that the price of coal has been too low in relation to the costs of production, thus leaving a totally inadequate balance of profits available for the putting aside of proper reserves for retention in the business, and for the payment of a reasonable dividend to the Shareholders.

It must be obvious to every experienced business man, and indeed to every fair-minded critic of the Company, that if this situation was to be allowed to continue it would before long become disastrous to the financial stability of the Company, with equally disastrous results upon the whole economy of the Countries dependent upon it for their coal supplies. This would be true even if the Company was not faced with the necessity of raising its output as soon as is practicable to meet the requirements of consumers throughout the Territories. But this necessity, coupled as it clearly must be with the necessity to raise considerable sums of additional capital, makes it imperative in the interests of all concerned—the Governments, the consumers and the Shareholders—that the Company should be placed as a matter of urgency upon a new foundation of financial strength and stability.

The present foundation is based upon the arrangement of price control which was established as long ago as 1923 and has now become completely out of date.

The Directors, therefore, felt it to be their duty to make urgent representations to the Government for a complete overhaul and amendment of the present position. I am glad to be able to record here that the Government received our representations with understanding and sympathy, and immediately gave instructions for the whole situation to be closely and critically investigated.

TERMS OF NEW AGREEMENT

I am glad to be able to report, following this investigation, we have reached a new agreement which includes the following:—

- (a) The margin in the future will be 6s. 6d. a ton instead of 5s.
- (b) The new margin will be an average margin instead of a maximum as it is at the present time.
- (c) The time lag will be abolished by providing for the price to be based at the beginning of each year on an estimate which will reflect all known costs and immediately foreseeable increases or reductions when the estimate is made.
- (d) The price may be revised at any time during the year to meet either upward or downward trends of costs during any period of twelve months.
- (e) The Railways will in future be treated on the same basis so far as price is concerned as any other large consumer.
- (f) For the protection of the private commercial concerns, factories, tobacco growers, farmers and domestic consumers, the new agreement will extend to all coal produced at Wankie and sold for any purpose within Southern and Northern Rhodesia and Nyasaland as well.
- (g) The new agreement will deal with other matters which it is unnecessary for me to specify in detail here, but there is a special feature to which I would like to refer. There will be incorporated in the new arrangement some real and continuing incentive for the Company by their own initiative and by increased efficiency either to reduce costs or to prevent them rising further. When the scheme is established it is intended that both the Company and the consumers will participate in the ascertained savings in fair proportions.

The Board and their advisers are satisfied that the new arrangements are both necessary and no more than are adequate to do justice to the Shareholders, and at the same time to provide a firm foundation of financial stability upon which the plans for further capital provision can be based.

PRICE INCREASE REGRETTABLE BUT NECESSARY

The terms of the new arrangement will become effective as from January 1 next. The new price will be in the neighbourhood of 20s. per ton—a little more for some and a little less for others,

the actual price to any consumer being dependent upon quantity and grade. The Directors greatly regret having to announce this substantial increase but they are at the same time completely satisfied that, for the reasons which I have given, and particularly in order to enable the Company to raise on favourable terms the additional finance required, they would be falling short of their duty and responsibility both to the Shareholders and to the Territories served by the Company, upon the financial stability of which adequate supplies of coal must primarily depend, if they were to shrink from taking now the only proper course by raising the price of coal to the figure allowed by the new arrangement however unpopular such an increase may immediately appear to be.

Although, with the one exception of South Africa, there is no other country in the world where the pithead price of coal is as low as the new Wankie price, at the same time I would like to state here without any qualification that the Directors and the Chief Officials of the Company are taking every practicable step in the interests of greater efficiency and economy of working in the hope that they may not only avoid any further increase in the price, but even reduce it. The Directors subscribe completely to the statement made by the Prime Minister of Southern Rhodesia, Sir Godfrey Huggins, when he said in his speech at the opening of the Zambesi Water Supply Scheme that coal from Wankie should be supplied at the lowest possible price compatible with decent living conditions for all employees, and with a reasonable return to the Shareholders.

This new arrangement can properly be regarded as a new charter for the Company.

Before I leave the subject of price I want to refer specially to the position of the Northern Rhodesian Copper Companies and Rhodesia Broken Hill. It is common knowledge that, under contracts made between these companies and Wankie as long ago as 1937/1938, they are legally entitled to receive their supplies of coal and coke at fixed prices in those years without provision for any increase in price to meet changing conditions. I have been very glad to have been able to report from time to time, as I have done to-day earlier in this speech, that these companies have agreed to accept increases in price to keep pace with rising costs. I am very happy now to be able to announce that the companies have agreed in principle to the cancellation of the present contracts, subject to the negotiation of new contracts which will reflect fairly both the new price structure and the large annual quantities involved.

CAPITAL EXPENDITURE

Specific reference in the Report was made to the necessity for further finance in order to provide for the expansions of the Company's operations, and this necessity has been implicit in the previous part of my speech. The main categories under which this capital expenditure fall are indicated briefly but accurately in the Report, and fall broadly under the headings of Coal Output, Coke Output, Housing, Hospital and Medical Services, and General Welfare arrangements and amenities. The matter is now receiving close attention and an Extraordinary General Meeting of the Company will be held in the New Year when the Directors' recommendations will be laid before the Shareholders. In view of this there is no more which I can usefully add on the matter on the present occasion.

In view of the interest which has been shown in the question it would be well for me to mention to the Shareholders the decision of the Board to expand the output capacity of the Company from 3,800,000 tons to 5,000,000 tons a year by opening a third underground colliery instead of raising the output by opencast methods.

The two alternatives were critically examined by Powell Duffryn (Rhodesia) Ltd., in close collaboration with the Colliery General Manager, and their recommendation was that the next expansion should take the form of a new underground colliery instead of a large scale opencast mine. After full consideration the Board accepted this recommendation, but, in coming to this conclusion, they would like to make it clear that they are of the opinion that the time will come when large scale opencast methods will be employed at Wankie, and that in considering plans for the next expansion that may become necessary, the alternative of an opencast mine will be brought forward again and may well be adopted.

PAST AND FUTURE EVENTS

One of the outstanding events of the year was undoubtedly the visit to Wankie on August 2 and 3 of the Prime Minister, Sir Godfrey Huggins, and Lady Huggins, the former to perform the formal opening of the Zambesi Water Supply Scheme bringing water to Wankie for industrial and domestic use from the Zambesi River at the rate of over 2,000,000 gallons a day, and the latter to present the prizes at the children's annual sports.

The Rhodes Centenary Exhibition to be held at Bulawayo next year will be an event of great importance and significance. The Board have decided that the Company, its history and its present

operations and progress, should be presented to the visitors in a well-planned exhibit in a manner which will be worthy both of the occasion and the subject. One of the special features of our exhibit will be a film of Wankie which will, it is believed, be full of interest to the visitors to the Exhibition.

It would not be right for me to conclude without expressing to Powell Duffryn Ltd., operating through its subsidiary companies, Powell Duffryn Technical Services Ltd. and Powell Duffryn (Rhodesia) Ltd., our thanks for their services to the Company during the year. In many different ways, and in many different directions, they have been of great help to us, and we are grateful to them.

TRIBUTE TO STAFF

Finally, we owe a real debt of gratitude to the Staff of the Company, both in Salisbury and Wankie. It has been a year of extremely hard work for them in every way and in every department. I am glad to say that the spirit throughout the Company is one of optimism for the future and the morale is high. Our thanks are due to them all.

The report and accounts were adopted.

GÉOMINES THE YEAR REVIEWED

The Annual General Meeting of the Compagnie Géologique et Minière des Ingénieurs et Industriels Belges was held in Brussels on Tuesday, December 9, 1952. The following is a translation of the text of the directors' report which has been circulated to shareholders with the report and accounts for the year to June 30, 1952:—

At the Extraordinary General Meeting held on April 10, 1952, a resolution was passed to increase the capital of the Company from 200,000,000 C.frs. to 700,000,000 C.frs. A resolution was also adopted to reconstitute old shares into shares of 1,000 frs. each and to introduce certain amendments to the articles of the Company. These resolutions were approved by a Royal Decree dated May 17, 1952.

The Comité Spécial du Katange exercised its right to subscribe for 20 per cent of the increased capital, namely 100,000 new shares of a nominal value of 1,000 frs. each and also exercised its subscription rights attaching to the shares which it already held. It has thus subscribed 27.68 per cent of the 500,000,000 frs. of the additional capital.

A lawsuit concerning the C.S.K.'s right to accumulate its subscription right is at present before the courts.

TIN MARKET

In June, 1951, the United States Government, which is the chief buyer in the world tin market, established a fixed price of 106c. per lb., shortly afterwards reduced to 103c., for bulk purchases of tin. These prices were lower than quotations on the free market.

In view of such disadvantageous terms we suspended our sales to the U.S., as did all the other tin producers in the Belgian Congo. At the beginning of 1952, deliveries were resumed as the result of a new agreement concluded with the American authorities. This agreement guarantees a price of 120½c. per lb. to March 1, 1954, for the sale of at least half of our production.

PRODUCTION

In the period under review, cassiterite production was 3,576 tonnes, of which 532 tonnes were obtained from hard rock deposits. For the corresponding period last year production was 3,820 tonnes.

The new hard rock section is being steadily opened up and important preparatory work is being carried out. So far the natural geological features of the section have facilitated mining operations. The crushing and treatment plants continue to work steadily to improve technique and to reduce working costs, and both are making satisfactory progress.

COAL MINING

At Greinerville we have resumed underground mining in our Lukuga coal basin, partly to supply the demands of local consumption which has been increased as a result of the new industries being established in the Albertville and Usumbura areas. We intend to experiment with mechanized mining.

Experiments carried out in Europe at the pilot plant by the Syndicat de la Lukuga have proved that our coal is suitable for chemical processing. Research is being continued to determine the best method. A chemical industry, based on our coal mines, would absorb large quantities of coal.

HYDRO-ELECTRIC POWER

The central hydro-electric plant at Piana produced 58,000,000 kWh. The expansion which is being planned envisages the creation of a new water intake, the construction of a feeder canal, and of a generating house, as well as the installation of conduit pipes. These turbines (Kaplan type) of 12,000 h.p. each, will increase power capacity to 39,000 h.p. which will be sufficient for all our requirements.

The civil engineering work and the buildings are planned in such a way as to allow the subsequent installation of a third similar turbine. Construction will be completed in 1956 and according to the estimates of our advisory engineers will cost 250,000,000 frs.

BREWERY

A brewery has been set up at Manono to supply local requirements. However, as demand for its production broadens, we will expand output accordingly.

STAFF

At the end of the period under review, personnel employed in our tin mining operations at Manono totalled 145 Europeans and 5,600 natives. In the coal fields, 4 Europeans and 150 natives are employed.

INVESTMENT PORTFOLIO

We sold 9,428 shares of 500 frs. each out of new holdings in the Charbonnages de la Luena. The proceeds are shown in our current profit and loss account. 1,312 shares of the Société Minière de Kamola, of 1,000 frs. each, of which 50 were paid up, have been exchanged for 69 shares, fully paid up, in the Société Simkat.

SUBSIDIARY INTERESTS

In 1951, Compagnie Georuanda produced 808 tonnes of cassiterite. Its profit and loss account showed a profit of 29,961,592 frs. against 25,707,900 in 1950. The balance remaining of 14,877,000 frs., after carrying forward 776,233 frs., allowed the distribution of a net dividend of 30 frs. per 500 frs. share.

The Société Minière de la Lueta has made a profit of 569,000 frs., and distributed 28 frs. net per 500 frs. share.

The 1951 accounts of Société Afridex show a loss of 3,308,715 frs. after allocating 4,128,708 frs. to amortization. The Company does not anticipate a loss for the current year and expects to maintain its amortization provisions at the previous levels.

PROFIT AND LOSS

At the end of the period under review, our capital of 700,000,000 frs. was made up of 500,000 new shares of 1,000 frs. and 800,000 old shares of 250 frs. The re-issue of the latter in new share units of 1,000 frs. has been effected since the end of the financial year.

As our office premises in Brussels were too small, we have had a new building constructed at a cost of 20,000,000 frs. Our administrative office will occupy a part of it and the remainder will be let.

In Africa, fixed assets for the period under review totalled 170,000,000 frs., bringing the total investments to 741,000,000 frs. over a period of 5 years. Stocks and supplies are shown in the balance sheet at 213,802,641 frs., an increase of 50,000,000 frs. over the previous period. After realizing 205,000,000 frs. short term debts our bank deposits were 316,000,000 frs. at the end of the year under review. The profit and loss account shows a profit on sales of 187,281,907 frs. against 177,406,674 frs. in the previous year. Income and profit from share dealings rose to 6,556,085 frs. against 1,400,755 frs.

After deducting general expenses, interest payments and amortization totalling 69,869,855 frs. (57,646,043 frs.), the available balance remaining was 95,000,000 frs. We recommend that this profit should not be distributed.

The investments and payments to which we have already referred have absorbed a large amount of our liquid resources. We must also keep a certain monetary freedom as a result of our commitments which are, in particular, the expansion project at the Piana hydro-electric plant, for which the purchase of material is estimated at 75,000,000 frs., and the repayment of 81,500,000 frs. to the E.C.A. The first repayment of 9,000,000 frs. falls due in October, 1955.

If you approve our recommendation, the funds available for distribution, after transferring 4,750,000 frs. to statutory revenue, will be placed in the special reserve account together with the carry forward from the previous year, thus making a total of 96,079,687 frs.

At the date of the annual general meeting Messieurs Leon Greiner and A. E. Gerard retired and are eligible for re-election.

On the other hand, in view of the lawsuit between our Company and the C.S.K., Monsieur Gorlia, its president, who was elected a director at the recent extraordinary general meeting, has submitted his resignation as from July 15, 1952. We propose to leave this seat vacant.



OMCOL

The Trade Mark of
THE OAKLAND GROUP

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OAKLAND METAL CO. LTD.

94 NEW BOND STREET,
LONDON, W. 1

Telephone:
GROSVENOR 5241/4

Cables:
AMOMET, LONDON

THE SOUTH WEST AFRICA CO. LTD. SIR DOUGAL MALCOLM ON THE YEAR'S OPERATION

The Annual General Meeting of The South West Africa Co. Ltd. was held on December 12 in London.

Sir Dougal Malcolm, K.C.M.G., the Chairman, in the course of his speech, said: If you will kindly turn to the profit and loss account you will observe that the first item under South West Africa expenses, namely, mining, refining, prospecting, etc., at £780,025, shows a large increase when compared with last year's figure of £428,731, and that the charge for depreciation is about £33,000 higher this year than last.

The corresponding account on the other side of the accounts, namely, ore sales account, also shows a considerable increase, however, the figure being £1,301,627 in this year's accounts as compared with £832,672 in last year's accounts. In order to inform shareholders more fully regarding the details of expenses and receipts, an analysis has been included in the directors' report.

The increased profits shown in the accounts before you have necessarily resulted in increased taxation, and the total amount provided for this purpose in our profit and loss account this year is £320,683, compared with £213,601 in the previous accounts.

Only one other item in the profit and loss account calls for special comment—namely, "dividends and interest on investments." Dividends from "trade investments," that is, from our holding in Metallo Chemical Trust Co. Ltd., amounted to £5,325, and dividends from "other investments" totalled £67,165, to which amount dividends received on our shareholding in Tsumeb Corporation Ltd. made a very substantial contribution.

The profit on the year's working, after providing for taxation, is £157,778, and after adding the balance brought forward from June 30, 1951, £46,618, we have available £204,396. We have transferred £50,000 to general reserve, thus increasing that reserve to £350,000, and it is proposed to pay a final dividend of 6s. per share, less tax at 9s. 6d. in the £, which, together with the interim dividend of 2s. per share paid in July last, will absorb £111,679, leaving the sum of £42,717 to be carried forward.

Development operations at Avenab West and at our other properties have continued during the year under review.

Difficulties with regard to the transport of our concentrates by rail to Walvis Bay for shipment have been largely overcome, though we are still hampered by the inadequate arrangements for handling ore at Walvis Bay. Improvements at the port are, however, being made in order to relieve the congestion which takes place, due to the length of time necessary for each vessel to load its cargo and the limited accommodation available for ocean-going vessels.

The year's operations resulted in an increase in the production and sales of fused vanadic acid, both on the Continent and in England, and this side of our business continues satisfactory.

Our output of tin wolfram concentrates has been maintained, and the recent provision of further plant is already resulting in increased tonnages of these valuable concentrates. Production of zinc concentrates, too, has continued and sales effected.

BASE METAL PRICES

In my speech at our last general meeting I referred to the then existing high level at which base-metal prices stood. I further stated that, subject to these conditions being maintained, I anticipated that our profits for the year under review would continue to be satisfactory. You will notice in the directors' report that our sales of lead last year realized the large amount of £637,601, the average price received for our production being £151 per ton of metal. In contrast to this the average price for lead on the London Metal Exchange, which was reopened for trading in lead from October 1 consequent upon the release from Government control, was for last month, £94 approximately.

With regard to our sales of zinc concentrates, the substantial figure of £141,868 realized last year was again influenced by the high prices ruling during the period under review. The average received in this instance was £152 per ton of metal, which contrasts with the present-day price of somewhat over £100 per ton. It remains to be seen whether fears of a further fall in price are realized when dealings in zinc are resumed on the London Metal Exchange next month similar to that which took place in the case of lead, to which I have already referred.

I need hardly say that the fall in the prices of these metals must of necessity have an adverse effect on our results for the financial year ending on June 30 next, though to what extent it is, of course, impossible to forecast. It is hoped, however, that this adverse effect will be offset to some extent by a further increase in our deliveries of fused vanadic acid over the figure for the year under review. Nevertheless, it is my duty to emphasize the influence which the prices of lead and zinc will continue to exert on our affairs, and unless these prices revert to a higher level than at present shareholders must be prepared to see a considerable reduction in the current year's profits as compared with those for the past year.

The report and accounts were adopted.

TRONOH MINES

IMPROVED CONDITIONS IN MALAYA

The Fiftieth Annual General Meeting of Tronoh Mines Ltd. was held on December 17 in London.

Mr. J. H. Rich, chairman of the company, presided.

The Chairman referred to the loss to the Board caused by the death of Mr. Harry Rich and the retirement of Mr. H. Ashworth Hope, and to the filling of the vacancies by the appointment of Mr. D. W. Thomas and Mr. R. J. Ward.

The following are extracts from the Chairman's address which was circulated to shareholders:—

In addition to the increase in the cost of fuel and material there has been a marked increase in wages due to a tin price bonus scheme. It was the original intention of the scheme that when the tin price dropped there should be a corresponding reduction in wages. When the price did drop, however, no such reduction followed because the cost of living had not decreased.

TERRORISM

Concerning conditions in Malaya, it is generally admitted that there is a marked improvement, largely due to the strong and energetic measures taken by the High Commissioner. One result has been greater co-operation between the people and the authorities in the supply of information. The fight is, however, by no means over, as is shown by the attacks which still occur.

Our staffs and their families, in common with others, continue to live in an atmosphere of acute strain. Their courage and calmness, which have largely contributed to maintaining the general morale, deserve our greatest admiration.

TAXATION

The accounts for the year ended December 31, 1951, show the heavy burden the company has to bear in the way of taxation and now there is an additional impost in the form of an excess profits levy. Representations were made for the exemption of the Malayan tin-mining industry. The claim for total exemption was not granted, but certain concessions were obtained.

MALAYAN TIN BUREAU

There has recently been set up in Washington, D.C., a Malayan Tin Bureau sponsored and financed by the Malayan tin producers which will provide accurate information in the U.S.A. regarding the industry.

TIN POSITION

As regards the tin situation the immediate future is obscured by uncertainty over stockpile objectives in the U.S.A. and the control maintained on industrial consumers in that country. But the policy of the U.S.A. in keeping the price down remains unchanged, and while this policy persists there is no incentive for increased production.

In assessing the future production of tin, the nationalisation of the tin-mining industry by the Bolivian Government cannot be overlooked, as it raises the question of the effect it will have on production. The general view, I think, will be that it will have a very marked adverse effect.

A well-known firm of metal brokers has estimated the probable world production of tin for 1952 to be 154,900 tons and consumption 140,000 tons. The surplus of about 15,000 tons is obviously much less than the U.S. Government would appear to be willing to take into the strategic stockpile. The expectation that this surplus may bring opportunities for buying tin at lower prices during the next few months is not likely to materialize. There can be no doubt that the tendency will be for an increase in consumption. The increase in the population in the U.S.A. alone, which is growing at the rate of 2,750,000 a year, will inevitably have its effect on the consumption of tin, by steadily expanding the need for tinplate to make containers for processing and preserving larger quantities of food.

The tremendous increase in industrial production in the world has raised the question of the supply of the necessary raw materials. Realizing the importance of this, a Commission was appointed in the U.S.A. to examine the problem. Their report, known as the Paley Report, has recently been published, and in its findings the Commission has pointed out the urgency of an increase of one-sixth in the world production of tin. One consequence of the publication of the Paley Report has been an intensive study by the U.S. Government of the entire raw materials question, and as a result there appears to be growing support for some form of stabilizing price agreement. This is a complete change from the attitude formerly held. There are, however, grave doubts about the usefulness of any such schemes; there is a dislike of any interference with the freedom of the market, and there is finally the insuperable difficulty of getting producers and consumers to come to terms in any such scheme over such essentials as quotas and high and low price levels.

The report and accounts were adopted.

HARRISONS & CROSFIELD LTD.

SIR ERIC MILLER'S SPEECH

Presiding at the Forty-Fourth Annual Meeting of Harrisons & Crossfield Ltd., on December 16, 1952, Sir Eric Miller reported total Group profits for the year to June 30, 1952, of £1,822,756, an increase of £118,638, and said: The group net profit applicable to the Parent Company, including reserves and provisions brought back, was £886,694. The Deferred Ordinary Dividend is maintained at 30 per cent, and Dividend Equalization Reserve receives £200,000, making that Reserve £250,000. Total Reserves now amount to £3,442,040, an increase of £775,620 over the previous year.

Our profits have been mainly derived from the trading side of our overseas business, which has enjoyed favourable conditions over the greater part of the financial year. The Group's Stocks have been kept well under control, and the outstandings represent a moderate figure when related to turnover.

In addition to fostering British exports on an extensive scale, our Group as a whole play a substantial part in entrepot trade throughout the world. Much of this does not pass through this country, but nevertheless it adds to the weight of British invisible exports by way of freight, insurance, banking and merchants' profits.

TAXATION DISADVANTAGES

We, in common with many other British enterprises trading overseas, suffer the following taxation disadvantages in respect of profits made abroad: (1) the combined local and U.K. taxes payable on such profits, even after allowing for such double taxation relief as is available, often exceed the amount which would be payable if such profits were earned wholly in the U.K.; (2) the Taxation Authorities have so far insisted on our paying U.K. Tax on profits of overseas branches in sterling, even though it has been impossible to have such profits remitted to this country because of Exchange Control restrictions. Incidentally, this penal taxation affects not only trading concerns, but applies equally harshly to many of the Plantation Companies domiciled here for which we act as Secretaries.

Weighty evidence has been submitted to the Royal Commission on the Taxation of Profits and Income, proposing to exempt overseas income from Income Tax and Profits Tax in the U.K., a system which is already in force in Australia, South Africa and certain European countries. We suggest that the Chancellor should make this urgent reform now and not delay action until the report of the Royal Commission is available.

Failing the complete exemption proposed, the U.K. taxation laws should be amended without delay to allow that: (a) such profits should not be assessable to U.K. taxation until received in this country, thus following the practice of the U.S.A.; and (b) the principle of full double taxation relief, which at present is applicable only as between the U.K. and those countries which have actually entered into Double Taxation Agreements, should be applied to all foreign income.

The question of where to find and how to pay for the imports of foodstuffs with which to sustain a reasonable standard of living for a growing population is giving rise to grave concern in many countries where internal production in itself falls far short of minimum requirements. We have this problem at home but it is also a very real one in many Eastern countries, particularly those which formerly relied for supplies of rice on Burma and Indo-China, where internal conflict has been responsible for a serious reduction in the quantities available for export.

The F.A.O. have issued grave warnings and the Governments of the importing countries are being helped to amplify their own internal production, but speed is essential if such developments are to measure up to the needs of the rapidly growing population. With rice in continuing short supply the price is naturally held at so high a level as to affect adversely the cost of living. It is difficult to change the food habits of the people even when they are chronically under-nourished.

Sir Eric said that the cessation of Tea rationing brought no immediate increase in consumption, but owing to low prices and other causes world supply and absorption were rapidly approaching equilibrium. He foresaw that tea would not be available for long at prices appreciably below cost of production.

For years past, he said, the U.S.A. Government Agencies have played an almost decisive role in shaping the course of natural rubber prices by reason of their stockpile purchases on the one hand and their synthetic production policy on the other. The State Department are well aware of what a fair price for natural rubber means to the economy of South East Asia, but they are not the Agency which dictates the policy of the U.S.A. Government in rubber matters. The natural rubber industry desires, and ought to have, a fair field in which to compete on its merits with synthetics priced on a commercial, unsubsidized, basis with only minimum mandatory use. I remain a firm believer in the future of natural rubber from conviction of its merits as a tough elastic material.

The report was adopted.

LAMPA MINING CO. LTD.

The Forty-Sixth Annual General Meeting of the Lampa Mining Co. Ltd. is being held in Liverpool to-day.

The Chairman, Mr. J. Shirley Esplen, sent a message of regret that, being convalescent from a recent illness, he was unable to preside. The Chair was therefore taken by Mr. E. Senior Smith (Managing Director).

The following is an extract from the Chairman's statement, circulated with the report and accounts dated November 26.

The tonnage of charge dealt with in the smelter as well as the tonnage of matte produced suffered a small decline during the past year.

The copper content of the charge fell considerably, and though the percentage of copper recovered in the matte showed a further marked improvement, the total tonnage of fine copper in the matte declined by about 40 tons during the year. On the other hand the fine silver content showed a small improvement.

The decline in the production of fine copper can be attributed to the difficulty experienced in purchasing richer grade ores for mixing purposes. The higher market price of copper made it more profitable for the producer of these ores to sell for export. This position is unchanged at the moment of writing.

Now I would like to turn to the new segregation process, which we are developing and which I described to you in my report last year.

We have made substantial progress since last year. In the first place a small experimental plant was set up by Dr. Knibbs and his new partner, Mr. Thyer in Kent and the Board witnessed that at work on a small shipment of Berenguela ore which we brought over here for the purpose. The results were encouraging even though a number of technical problems kept cropping up, and we proceeded with the next step, namely the construction of a pilot plant to treat 1 ton per day at the mines. For this purpose, Mr. Thyer made two visits to the mines, both of which were very beneficial, and finally by August this year he was able to report that the 1 ton pilot plant had completed its first trial run with satisfactory results.

Since then work has proceeded with the design and the ordering of equipment for a commercial plant to treat 50 tons of ore per day.

This is being built to Messrs. Knibbs and Thyer's witness and is being laid out in such a way that if the first 50 ton unit operates successfully and profitably it can be quickly expanded so as to deal with a throughput of 100 tons per day.

Another factor which the Board have had to consider very carefully has been the question of finance. The estimated cost of the 50 ton plant is placed at a figure somewhere about £15,000, and the directors are satisfied that this expansion of our fixed assets can be financed by the company out of its surplus liquid resources without any undue strain, and without having to seek any fresh capital from outside. Incidentally, I may say that though we expected, for reasons of delivery or of technique, to have to order a considerable proportion of the new plant in the U.S.A., yet we have found so far, to our great satisfaction, that nearly everything required can be ordered in this country, and that we have been able to obtain offers of much better deliveries than we originally expected.

During the year under review a visit was made to our properties by one of our directors, Mr. G. L. Carroll, and this visit and the report rendered by Mr. Carroll to the Board were very helpful to the directors, and assisted the harmonious relations between the Board in Liverpool and the Management in Peru. Since the close of the financial year we have called our General Manager, Mr. W. Sim to Liverpool for a general consultation on the company's affairs with particular reference to the construction of the projected new plant. This visit also has been very beneficial.

Turning to the actual accounts themselves, you will notice that the total product of our sales brought into this year's accounts is a little less than last year, and the cost of production charged is also less by an appreciable amount. These figures are, of course, in sterling, and they are affected considerably by the rate of exchange from Peru. Last year the rate at the time of closing the accounts was S/. 37.81 to the pound, this year it is S/. 44.15 to the pound. This has the result that the same amount in soles produces a smaller sum in sterling. It also has the result that our net current assets in Peru have suffered an exchange difference of considerable dimensions, which as you will see has been written off as a debit in the profit and loss account.

You will notice that we have taken advantage of the fact that we have enjoyed a relatively good year to write off a substantial amount of depreciation from our fixed assets, including the sum of £2,000 written off our mines.

After writing off this substantial depreciation, the debit for difference on exchange and transferring £1,000 to Contingency Reserve, we have left sufficient to pay a final dividend of 7½ per cent, making, with the interim, a total of 12½ per cent for the year.

Since the close of our financial year matters have, up to now, proceeded along normal lines, with production keeping roughly to the same monthly level.

JANTAR NIGERIA CO. LTD.

The Fortieth Annual General Meeting of Jantar Nigeria Co. Ltd. was held on December 18 at Winchester House, London, E.C.

Mr. C. A. P. Tarbutt, Chairman and Managing Director, presided.

The following is an extract from the statement of the Chairman which was circulated with the report and accounts for the year ended September 30, 1952:

Output for the year was 258 tons tin and 214 tons columbite. While the average price received for tin was lower, this was more than made up by the increase in the contract price of columbite from \$35.84 to \$44.80 per unit—that is, from £845 to £1,056 per ton of concentrate.

No doubt you have seen newspaper articles which have appeared in recent months on the subject of columbite, in which it is stated that the American Government is to pay producers of columbite a 100 per cent bonus for such of the commodity which is sold to U.S.A. We understand that the bonus will be paid on all shipments arriving in the United States after May 28, 1952. On this basis 148 tons of the year's output qualify for the increased price but, as the first payment on account of the bonus has not been received, your directors have not considered it proper to include any amounts which may be due in the year's accounts.

The columbite contract with the American buyers is due for renewal at the end of the year and, as usual, stockholders will be informed of the price agreed upon in the new contract when this has been signed.

In reviewing the future operations of the mine, lower values and rising costs make it imperative that our treatment plant works with maximum efficiency. Most of the plant which we have is now obsolete, particularly in relation to the extraction of columbite which has become such a valuable commodity. In order to bring the mill up to date, new treatment plant of the latest design has been ordered.

The net profit, after provision for taxation, is £66,214, compared with £72,357 last year.

The amount available for distribution is £73,816 after bringing in the carry-forward of £7,602 from last year.

Your directors recommend the payment of a dividend of 35 per cent, less income-tax at 9s. 6d. in the £, which will absorb net £24,806, leaving £9,010 to be carried forward.

The report and accounts were adopted.

ANGLO AMERICAN CORPORATION GROUP OF COLLIERIES**DECLARATION OF COLLIERY DIVIDENDS**

NOTICE IS HEREBY GIVEN that dividends have been declared payable to shareholders/stockholders registered in the books of the undermentioned Companies at the close of business on December 31, 1952.

The Dividends are declared in the currency of the Union of South Africa and become due on January 2, 1953. Warrants will be posted from the Head and London Offices on or about February 16, 1953.

The dividends are payable subject to the usual condition which can be inspected at the Head and London Offices of the Companies.

The Transfer Books and Register of Members will be closed in each case from January 1, 1953, to January 10, 1953, both days inclusive.

The effective rate of Non-Resident Shareholders' Tax is 7½ per cent.

NAME OF COMPANY (Each of which is incorporated in the Union of South Africa)	DIVIDEND No.	RATE OF DIVIDEND
*Amalgamated Collieries of South Africa Ltd.	33	2s. 3d. per share
South African Coal Estates (Witbank) Ltd.	60	
	(Interim)	1s. 9d. per share
Springbok Colliery Ltd.	11	1s. per unit of Stock

*The estimated net profit of Amalgamated Collieries of South Africa Ltd. for the year ending December 31, 1952, is £693,000 before providing for taxation. This figure is provisional and subject to the final audit. The profit for the year 1951 was £521,806 before providing for taxation.

BY ORDER OF THE BOARDS,
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December 16, 1952

W. C. SQUIRE,
Assistant London Secretary.

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NOTICE IS HEREBY GIVEN THAT DIVIDENDS have been declared payable to shareholders registered in the books of the undermentioned Companies at the close of business on December 31, 1952, and to persons presenting the respective Coupons detached from Share Warrants. Dividends on shares included in Share Warrants will be paid in terms of a notice to be published later by the London Secretaries of the Companies.

The Dividends are declared in South African currency and become due on January 2, 1953. Payment from the London Office will be in British currency at par provided that should there be any difference that may be regarded by the Boards as material between the two currencies on January 2, 1953, payment will be made on the basis of the equivalent British currency calculated at the rate of exchange ruling on that date.

Warrants in payment will be posted on or about February 5, 1953, to shareholders at their registered addresses or in accordance with their written instructions. Warrants will be despatched from the Head Office, Johannesburg, to addresses in Africa south of the Equator and from the London Office to addresses elsewhere. Instructions which will necessitate an alteration in the Office from which payment is to be made must be accepted by the Companies on or before December 31, 1952. Other changes of dividend instructions to apply to these dividends must be received by the Companies not later than January 26, 1953.

The Transfer Books and Register of Members will be closed in each case from January 1 to 7, 1953, both days inclusive.

Name of Company (Each incorporated in the Union of South Africa)	Dividend No.	Coupon No.	Dividend Per Share s. d.
Rand Mines, Limited	99	99	3 0
Blyvooruitzicht Gold Mining Company, Limited	14	—	1 6
City Deep, Limited	66	66	1 0
Consolidated Main Reef Mines and Estate, Limited	86	83	2 3
Crown Mines, Limited	103*	103	2 6
Durban Roodepoort Deep, Limited	64	64	2 0
East Rand Proprietary Mines, Limited	66	67	2 6
Geldenhuis Deep, Limited	81	81	1 0
Modderfontein East, Limited	51	32	1 6
Rose Deep, Limited	95	95	1 3
Transvaal Consolidated Land and Exploration Company, Limited	30	30	1 9
Transvaal Gold Mining Estates, Limited	84	84	9

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London Secretaries of the above-named Companies.

London Office:

4, London Wall Buildings, E.C.2.

December 11, 1952.

YOUNG MINING ENGINEER required for base metal mine in West Africa. Duties include surveying and assaying. Tours 12-18 months. Leave on full pay, free passages out and home, fully furnished quarters, etc. Write with full particulars to Box No. 687, c/o. Dawson's, 129, Cannon Street, London, E.C.4.

MINING ENGINEER or SENIOR MINES FOREMAN age bracket 28-42 for Middle East. Preferably (but not essentially) technical graduate. Underground experience in flat-bedded ore deposits would be advantageous. Must be hard worker with initiative and ability to organize. Good salary and prospects to right man. Two year contract, renewable if satisfactory. Pension Fund, married accommodation available, 1st class passages including family, healthy climate, resident doctor. Write giving age, marital status, fullest details, experience and references to Messrs. Pannell, Crewdson & Hardy, 9 Basinghall Street, London, E.C.2.

Mining Men and Matters

Mr. D. T. Waring has been appointed chairman of Jelapang Tin, Kuala Kampar Tin, Kampong Lanjut Tin, Kundang Tin, Larut Tin Fields, and Tongkah Harbour Tin in succession to **Mr. W. M. Warren** who has left these boards. **Mr. G. H. Seddon** has been appointed a director of the above mentioned companies.

Mr. Waring has also been appointed chairman of Kramat Tin and Rawang Concessions in place of **Mr. Warren**. **Mr. Seddon** has also been appointed a director of Rawang Concessions in succession to **Mr. J. R. Farquharson** who has left the board.

The Institute of Metals Awards.—The Council of the Institute of Metals has awarded the Institute of Metals (Platinum) Medal for 1953 to Professor Georg Masing, of the Institut für Allgemeine Metallkunde, Universität Göttingen, in recognition of his outstanding contributions in the field of metallography; and the Rosenhain Medal for 1953 to Dr. Charles Eric Ransley, of the Research Laboratories, The British Aluminium Co., in recognition of his outstanding experimental and theoretical work on gas-metal equilibria.

Mond Nickel Fellowships—1952 Awards.—The Mond Nickel Fellowships Committee have announced the following awards for 1952: **Mr. A. Duce** of Joseph Lucas (Gas Turbine Equipment), Ltd., Burnley, to study in the U.K., the Continent, U.S.A. and Canada the metallurgy and testing of materials, especially in sheet form, developed for high temperature service, and the techniques employed in the manufacture of the combustion systems of gas turbine blades. **Mr. F. G. Horton** of the National Foundry College, Wolverhampton, to study casting production methods in the U.K. and on the Continent, with special reference to shell moulding, centrifugal casting, and sand-cement moulding. **Mr. H. A. Longden** of Steel Peach & Tozer Ltd., Sheffield, to study metallurgical control methods in the U.K., on the Continent, the U.S.A. and Canada, with special reference to open-hearth slag and temperature control. **Mr. G. P. Kempson** of Henry Wiggin & Co., Ltd., Birmingham, to study the development, application and control of ferrous and non-ferrous melting and ingot casting processes in the U.K., on the Continent, the U.S.A. and Canada.



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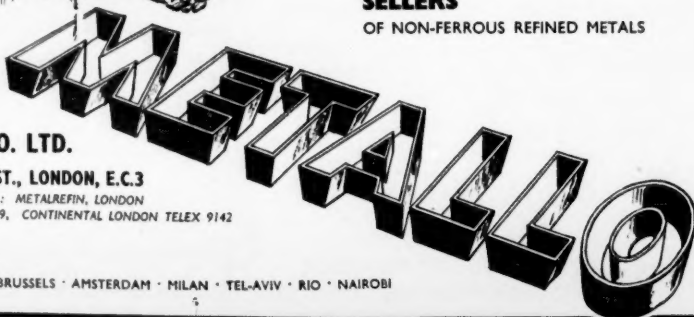
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